

## C. Alternatives

This section summarizes the information presented in EIS Appendix 5, Alternatives Screening Report, which contains detailed documentation and maps of all alternatives suggested for EIS consideration. This section is organized as follows: Section C.1 is an overview of the alternatives screening process; Section C.2 describes the methodology used for alternatives evaluation; Section C.3 presents a summary of the alternatives selected for full EIS analysis and those alternative that have been eliminated from further consideration based on National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) criteria; Section C.4 then describes in detail the alternatives that have been retained for full EIS analysis within each Section D topical area; and Section C.5 presents descriptions of each alternative that was eliminated from EIS analysis and explains why each was eliminated. Section C.6 describes the No Action Alternative.

### C.1 Alternatives Development and Screening Process

An important aspect of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project.

The Proposed Project is described in detail in Section B of this EIS. Appendix 5 describes the alternatives screening analysis that has been conducted for the Proposed Project and provides a record of the screening criteria and results that were reached regarding alternatives carried forward for full EIS analysis and alternatives eliminated. Appendix 5 documents: (1) the range of alternatives that was suggested and evaluated; (2) the approach and methods used to screen the feasibility of these alternatives according to guidelines established under NEPA; and (3) the results of the alternatives screening. For alternatives that were eliminated from EIS consideration, Appendix 5 explains in detail the rationale for elimination.

Alternatives to the Proposed Project were suggested during two scoping periods (May 12 to June 12, 2014 and July 1 to July 31, 2014) by federal, State and local agencies and members of the general public after SCE filed its Application for a Certificate of Public Convenience and Necessity (CPCN). Other alternatives were developed by EIS preparers or presented by SCE in its Proponent's Environmental Assessment (PEA).

In total, the alternatives screening process has culminated in the identification and preliminary screening of over 15 potential alternatives. These alternatives encompass both the 220 kV and 66 kV lines and range from minor structure location adjustments within SCE's existing right-of-way (ROW) to reduced build alternatives for the 220 kV transmission component.

### C.2 Alternatives Screening Methodology Under NEPA

The evaluation of the alternatives used a screening process that consisted of three steps:

- Step 1:** Clearly define each alternative to allow comparative evaluation
- Step 2:** Evaluate each alternative in comparison with the Proposed Project, using NEPA criteria (defined below)
- Step 3:** Based on the results of Step 2, determine the suitability of the each alternative for full analysis in the EIS. If the alternative is unsuitable, eliminate it from further consideration.

After completion of the steps defined above, the advantages and disadvantages of the alternatives are carefully weighed with respect to NEPA criteria for consideration of alternatives. NEPA provides guidance on selecting a reasonable range of alternatives for evaluation in an EIS, as described below.

According to the Council on Environmental Quality's (CEQ) NEPA Regulations (40 C.F.R. 1502.14), an EIS must present the environmental impacts of the proposed action and alternatives in comparative form, defining the issues and providing a clear basis for choice by decisionmakers and the public. The alternatives section shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.*
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.*
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.*
- (d) Include the alternative of no action.*
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.*
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.*

The CEQ has stated that reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and selected alternatives using common sense rather than simply selecting those alternatives that are desirable from the standpoint of the applicant (CEQ, 1987).

In addition to the CEQ NEPA regulations, CEQ has issued a variety of general guidance memoranda and reports that concern the implementation of NEPA. One of the most frequently cited resources for NEPA practice is CEQ's *Forty Most Asked Questions Concerning CEQ's NEPA Regulations* (Forty Questions). Although a reviewing federal court does not always give the Forty Questions the same deference as it does the CEQ NEPA Regulations, in some situations the Forty Questions have been persuasive to the judiciary. For example in one decision, a federal court relied heavily on one of the Forty Questions in interpreting the treatment of alternatives under NEPA [*American Rivers et al. v. Federal Energy Regulatory Commission*, 187 F.3d 1007 (9th Cir. 1999)] (Bass et al., 2001).

In general, alternatives are discussed in Forty Questions Nos. 1 through 7. Question No. 5b asks if the analysis of the "proposed action" in an EIS is to be treated differently than the analysis of alternatives. The response states:

*The degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the "proposed action." Section 1502.14 is titled "Alternatives, including the proposed action" to reflect such comparable treatment. Section 1502.14(b) specifically requires "substantial treatment" in the EIS of each alternative including the proposed action. This regulation does not dictate an amount of information to be provided, but rather, prescribes a level of treatment, which may in turn require varying amounts of information, to enable a reviewer to evaluate and compare alternatives.*

### C.2.1 Consistency with Purpose and Need

CEQ NEPA Regulations (40 C.F.R. 1502.13) require a statement to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” The October 2013 PEA includes the following six objectives stated by SCE for the Proposed Project:

- Allow SCE to meet its obligation to integrate and fully deliver the output of new generation projects located in the Blythe and Desert Center areas that have requested to interconnect to the electrical transmission grid.
- Consistent with prudent transmission planning, maximize the use of existing transmission line rights-of-way to the extent practicable.
- Meet project need while minimizing environmental impacts.
- Facilitate progress toward achieving California’s Renewables Portfolio Standard (RPS) goals in a timely and cost-effective manner by SCE and other California utilities.
- Comply with applicable Reliability Standards and Regional Business Practices developed by the North American Electric Reliability Corporation (NERC), the Western Electricity Coordinating Council (WECC), and the CAISO; and design and construct the project in conformance with SCE’s approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects.
- Construct facilities in a timely and cost-effective manner by minimizing service interruptions to the extent practicable.

This EIS in Section A, Introduction, describes how the 6 objectives set forth by SCE above were considered by the CPUC and BLM and identifies the 3 basic project objectives listed below. Each alternative considered in this EIS has been evaluated for its ability to meet these 3 basic objectives.

- **Basic Project Objective 1:** to upgrade the WOD 220 kV transmission lines between Devers, El Casco, Vista, and San Bernardino Substations to increase system deliverability by at least 2,200 MW.
- **Basic Project Objective 2:** to support achievement of State and federal renewable energy goals.
- **Basic Project Objective 3:** to maximize the availability of remaining space in the corridor to the extent practicable, so future use of the corridor for additional transmission line upgrades is not precluded.

In addition to SCE’s project objectives listed above, the October 2013 PEA provides a full chapter on the Purpose and Need (PEA Chapter 1.0) for the West of Devers Upgrade Project, including the following six statements by SCE:

- The Proposed Project is Needed to Integrate and Interconnect Generation Resources within the Blythe and Desert Center Areas.
- The Proposed Project is Needed to Comply With Executed Large Generator Interconnection Agreements (LGIAs).
- The Proposed Project is Needed to Support Integration of Generation with Executed Power Purchase Agreements (PPAs).
- The Proposed Project is Needed to Facilitate Integration of Renewable Generation Resource[s] Being Developed in the Coachella Valley Area.
- The Proposed Project is Needed to Comply with Reliability Standards.
- The Proposed Project Facilitates Progress Toward California’s RPS Goals.

## C.2.2 Feasibility

The environmental consequences of the alternatives, including the proposed action, are to be discussed in the EIS in accordance with CEQ NEPA Regulations (40 C.F.R. 1502.16). The discussion shall include “[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.” Other feasibility factors to be considered may include cost, logistics, technology, and social, environmental, and legal factors (Bass et al., 2001). Among the factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and proponent’s control over alternative sites in determining the range of alternatives to be evaluated in the EIS. For the screening analysis, the feasibility of potential alternatives was assessed taking the following factors into consideration:

- **Economic Feasibility.** Is the alternative so costly that implementation would be prohibitive? Is there evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with project?
- **Environmental Feasibility.** Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint? This issue is primarily addressed in terms of the alternative’s potential to eliminate significant effects of the Proposed Project.
- **Legal Feasibility.** Does the alternative have the potential to avoid lands that have legal protection that may prohibit or substantially limit the feasibility of permitting a high-voltage transmission line?
- **Regulatory Feasibility.** Do regulatory restrictions substantially limit the likelihood of successful permitting of a high-voltage transmission line? Is the alternative consistent with regulatory standards for transmission system design, operation, and maintenance?

Lands that are afforded legal protections that would prohibit the construction of the project, or require an act of Congress for permitting, are considered less feasible locations for the project. These land use designations include wilderness areas, wilderness study areas, restricted military bases, airports and Indian reservations. Information on potential legal constraints of each alternative has been compiled from laws, regulations, and local jurisdictions, as well as a review of federal, State, and local agency land management plans and policies.

- **Social Feasibility.** Would the alternative cause significant damage to the socioeconomic structure of the community and be inconsistent with important community values and needs? Similar to the environmental feasibility addressed above, this issue pertains to the alternative’s potential to eliminate adverse economic and social effects of a physical change in the environment caused by the Proposed Project.
- **Technical Feasibility.** Is the alternative feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?

## C.3 Summary of Screening Results

Alternatives identified by the Applicant, agencies, EIS preparers, and the public are listed below according to the determination made for analysis. Alternatives considered included alternative route alignments and other transmission alternatives, alternatives that could replace the Proposed Project as a whole, Non-Wire Alternatives, and the No Action Alternative.

### C.3.1 Alternatives Fully Analyzed in the EIS

The three alternatives listed below have been chosen for detailed analysis in this EIS through the alternative screening process. These alternatives are briefly described in Section C.4 and in greater detail in Sections 4 and 5 of Appendix 5. The preliminary conclusions generated during the screening process are presented briefly below and each of these alternatives is evaluated within each environmental issue area of Part D of this EIS. An overview map of these alternatives is included in this section as Figure C-1, but more detailed, individual maps of each alternative are in Sections 4 and 5 of Appendix 5 of this EIS, as well as Section D.

Table C-1 summarizes the rationale for carrying forward each of these alternatives.

**Table C-1. Alternatives Fully Analyzed in EIS**

Alternative	Project Objectives, Purpose, and Need	Potential Feasibility	Avoid/Reduce Environmental Effects
<b>Tower Relocation Alternative</b>	Fully meets all basic project objectives.	Meets legal, regulatory, and technical feasibility criteria, as well as construction timeframe and reliability criteria.	Meets environmental criteria. Reduces visual and construction-related disturbance impacts to residences in Segments 4 and 6.
<b>Iowa Street 66 kV Underground Alternative</b>	Fully meets all basic project objectives.	Meets legal, regulatory, and technical feasibility criteria, as well as construction timeframe and reliability criteria.	Meets environmental criteria. Reduces significant visual impacts of the new 66 kV line to residences in Redlands along Iowa Street.
<b>Phased Build Alternative</b>	Fully meets all basic project objectives.	Meets legal, regulatory, and technical feasibility criteria, as well as construction timeframe and reliability criteria.	Meets environmental criteria. Reduces amount of disturbance due to structure removal and would require the construction of fewer new towers and poles.

### C.3.2 Alternatives Eliminated from Full Consideration in the EIS

There were 12 alternatives eliminated after a detailed alternatives screening process (Section 2 of Appendix 5 describes screening methodology). Table C-2 summarizes the rationale for eliminating each of these alternatives from further consideration and they are shown on Figures C-2a through C-2c (Alternatives Eliminated).

**Table C-2. Alternatives Eliminated from EIS Consideration After Detailed Screening**

Alternative	Project Objectives, Purpose, and Need	Potential Feasibility	Avoid/Reduce Environmental Effects?	Conclusions
<b>500 kV Towers Alternative</b>	Fully meets all basic project objectives.	If Morongo Tribe does not approve a 500 kV line when it is needed in the future, then this alternative would not be legally feasible.	May avoid or delay the environmental impacts of future transmission expansion, but larger 500 kV structures would be installed initially.	Not analyzed because future service of the line at 500 kV would not be legally feasible without approval by the Morongo Tribe.

**Table C-2. Alternatives Eliminated from EIS Consideration After Detailed Screening**

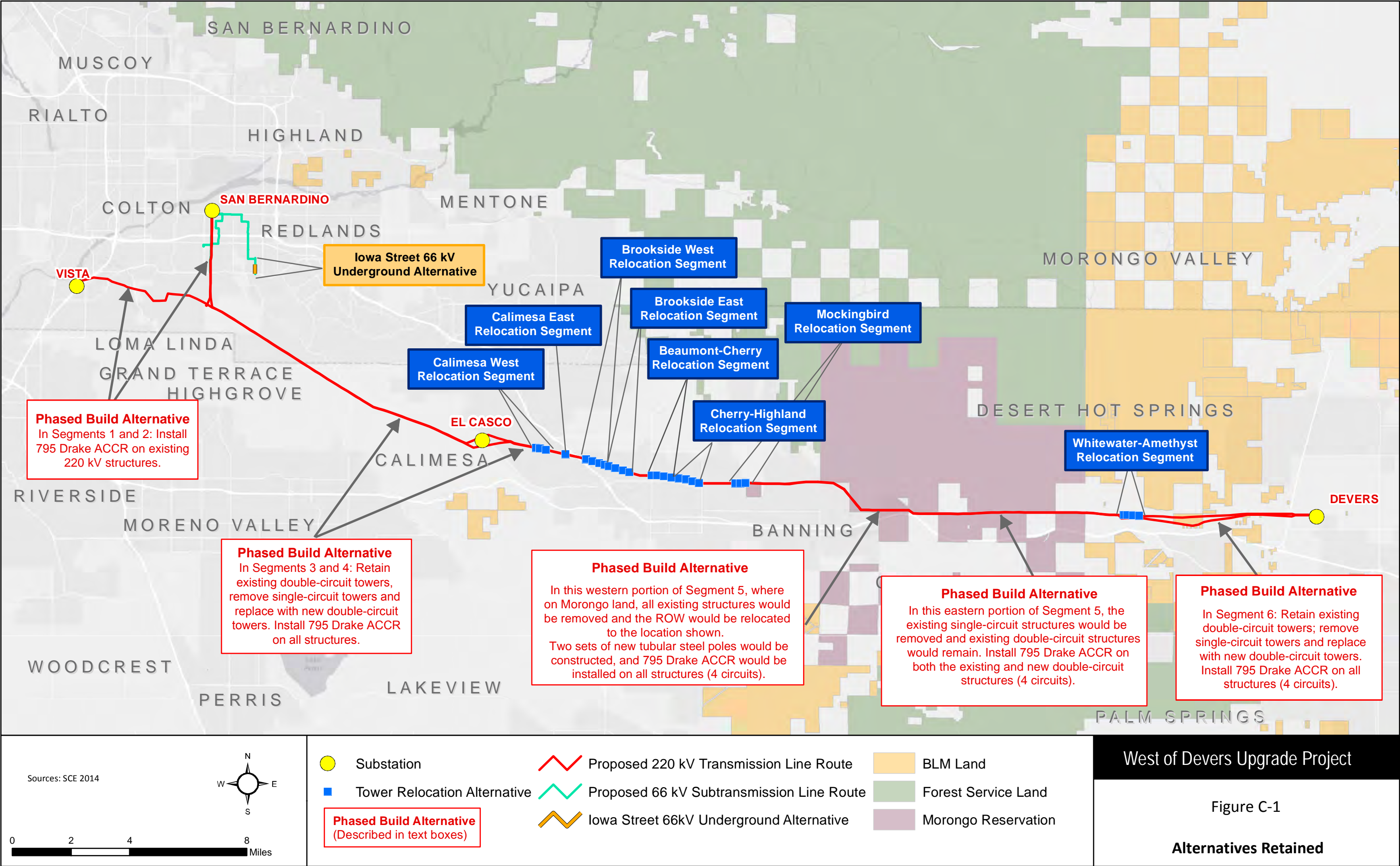
<b>Alternative</b>	<b>Project Objectives, Purpose, and Need</b>	<b>Potential Feasibility</b>	<b>Avoid/Reduce Environmental Effects?</b>	<b>Conclusions</b>
<b>Segment 4 Underground Alternatives in Calimesa, Beaumont, and Banning</b>	Fully meets all basic project objectives.	Meets legal, regulatory, and technical feasibility criteria, as well as construction timeframe and reliability criteria.	Reduces or avoids visual impacts, but it would result in much more severe construction impacts related to dust, ground disturbance, and traffic and would cross by two schools. Maintenance and repair times would also be increased.	Not analyzed due to greater level of environmental impacts and because another alternative, the Tower Relocation Alternative, has been identified to reduce significant visual impacts in these areas.
<b>Segment 5 Morongo Central Route Alternative (original PEA Proposed Route)</b>	Fully meets all basic project objectives.	Meets technical and regulatory criteria. Appears to be legally infeasible given the stated preference and approval by the Morongo Tribe for the proposed route.	Shorter route and farther from Banning Airport, but it would be closer to residences resulting in greater visual and construction-related disturbance impacts.	Not analyzed because of legal infeasibility on Morongo Reservation without tribal approval.
<b>Segment 5 Morongo Existing 220 kV Route Alternative (Existing ROW)</b>	Fully meets all basic project objectives.	Meets technical and regulatory criteria. Appears to be legally infeasible given the stated preference and approval by the Morongo Tribe for the proposed route.	Utilizes existing corridor and farther from Banning Airport, but it would be closer to residences resulting in greater visual and construction-related disturbance impacts.	Not analyzed because of legal infeasibility on Morongo Reservation.
<b>East Banning/Morongo Alternative</b>	Fully meets all basic project objectives.	Meets technical and regulatory criteria. Appears to be legally infeasible given the stated preference and approval by the Morongo Tribe for the proposed route.	Meets environmental criteria. Shorter route, farther from residences, and reduces visual impacts and construction-related disturbance impacts.	Not analyzed because of legal infeasibility on Morongo Reservation.
<b>Devers-Beaumont 500 kV Alternative (SCE System Alternative 1)</b>	Fully meets all basic project objectives.	Meets technical criterion. However, regulatory feasibility would be questionable if located within Potrero Area of Critical Environmental Concern (ACEC) and San Jacinto Wilderness.	Similar types of impacts to the Proposed Project would be transferred to a different, new location. Much greater construction disturbance and visual impacts to residences and sensitive receptors along the Devers-Valley corridor and from new substation southwest of Beaumont.	Not analyzed because impacts would be substantially more severe: greater construction disturbance and visual impacts. It would have no environmental advantages over the Proposed Project.
<b>Red Bluff-Valley-Serrano 500 kV Alternative (SCE System Alternative 2)</b>	Fully meets all basic project objectives.	Meets technical criterion. Regulatory and legal feasibility would be highly questionable due to likely location within designated San Jacinto Wilderness, tribal land, and National Monument.	Similar types of impacts to the Proposed Project would be transferred to a different, new location. Substantially greater construction disturbance and long-term visual impacts to sensitive land uses along a new and much longer corridor.	Not analyzed due to regulatory and legal feasibility issues and substantially more severe impacts of the much longer route without any environmental advantages over the Proposed Project.

**Table C-2. Alternatives Eliminated from EIS Consideration After Detailed Screening**

<b>Alternative</b>	<b>Project Objectives, Purpose, and Need</b>	<b>Potential Feasibility</b>	<b>Avoid/Reduce Environmental Effects?</b>	<b>Conclusions</b>
<b>Reduced Build Option 1 Alternative</b>	Fully meets all basic project objectives.	Meets technical, legal, and regulatory criteria.	Avoids the need to remove and rebuild all towers by reusing many of the existing structures, but 60% of existing double-circuit structures would still require upgrades or replacement.	Not analyzed, because it would not avoid or eliminate a substantial amount of the environmental impacts of the Proposed Project.
<b>Reduced Build Option 2a Alternative</b>	Fully meets all basic project objectives.	Meets technical, legal, and regulatory criteria.	Avoids the need to remove and rebuild all towers by reusing many of the existing structures, but 60% of existing double-circuit structures would still require upgrades or replacement.	Not analyzed, because it would not avoid or eliminate a substantial amount of the environmental impacts of the Proposed Project.
<b>Reduced Build Option 2b Alternative</b>	Partially meets Basic Project Objectives 1 or 2. Satisfies Basic Project Objective 3.	Meets technical, legal, and regulatory criteria.	Avoids near-term construction related to removing all towers.	Not analyzed, because it would not meet most Basic Project Objectives.
<b>High-Performance Conductor Alternative</b>	Fully meets all basic project objectives.	Meets technical and regulatory criteria. Highly unlikely to be legally feasible given the stated preference and approval by the Morongo Tribe for the proposed route.	Construction disturbance comparable to Proposed Project. May delay the cumulative impacts of installing a future 500 kV line in the corridor.	Not analyzed, because it would not reduce or avoid any project-related impacts and it would incur higher costs.
<b>Retain WOD Interim Facility Alternative</b>	Would not meet Basic Project Objectives	Meets technical and regulatory criteria. May not be legally feasible given the stated preference and approval by the Morongo Tribe for the proposed route.	Substantial reduction in construction impacts. Eliminates the visual benefit of the Proposed Project's consolidation of towers and removal of older structures.	Not analyzed, because it would not meet project objectives.

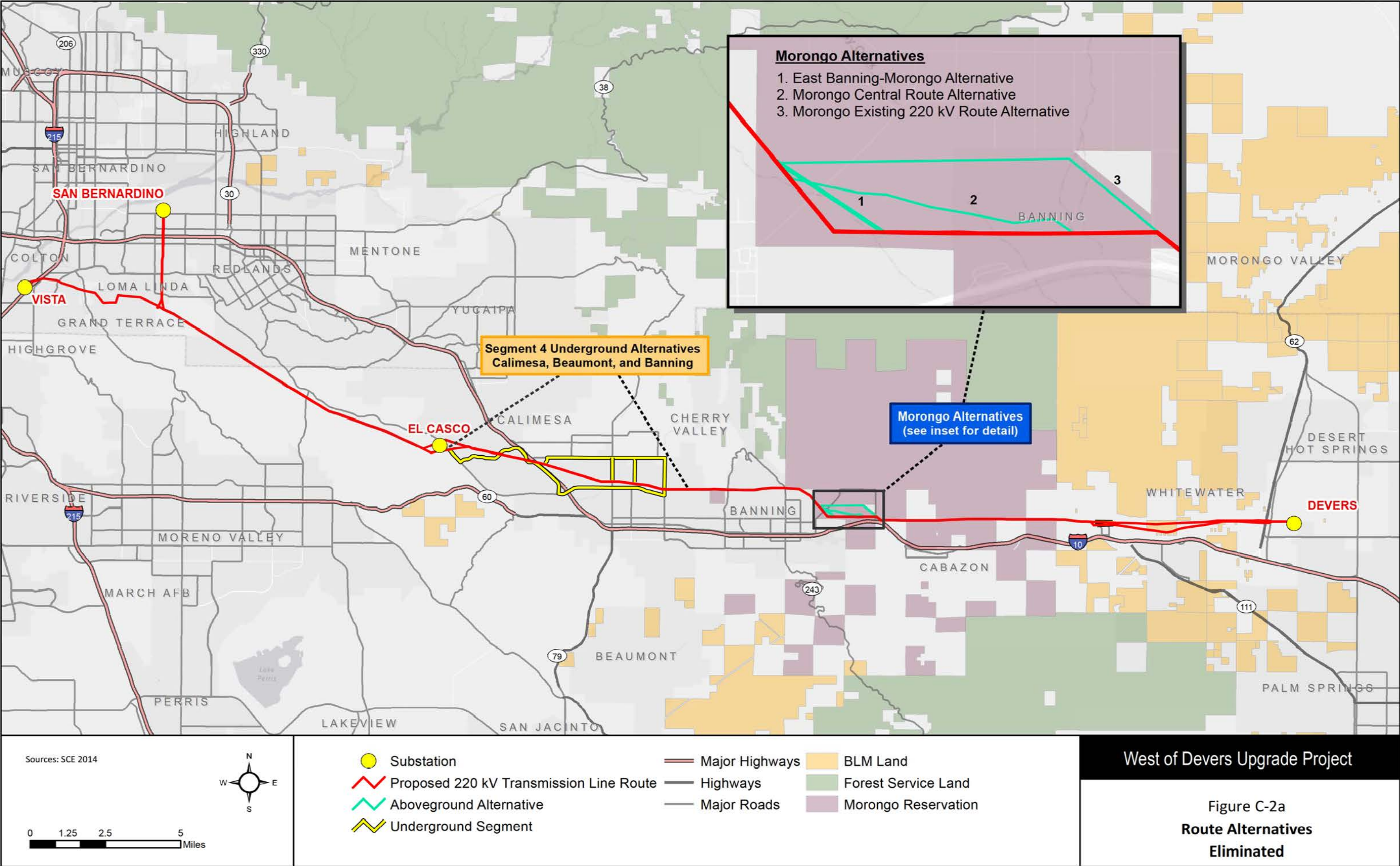
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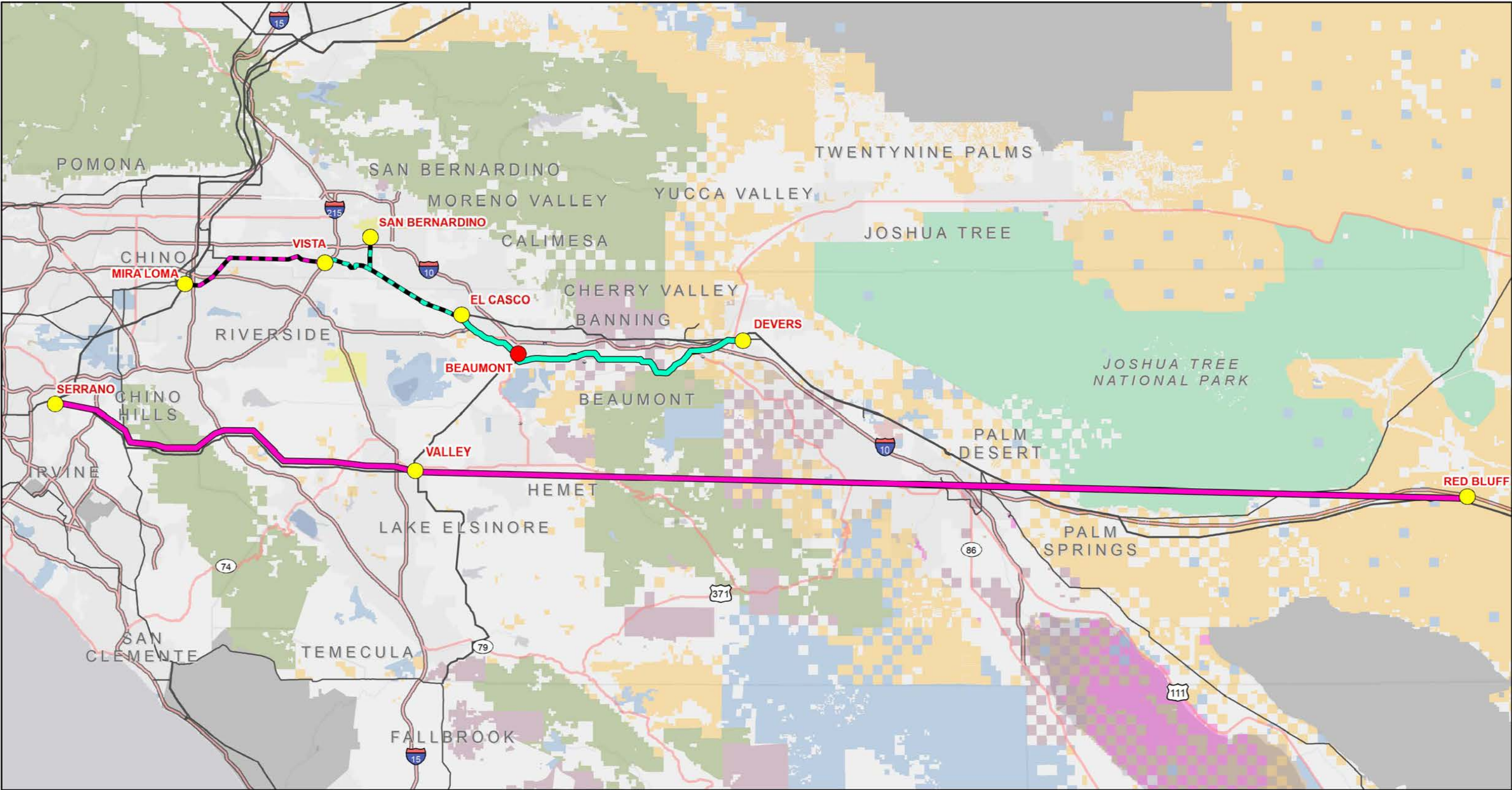
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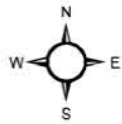


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Sources: SCE 2014



0 7.5 15  
Miles

- SCE System Alternative 1 - 220 kV Rebuild
- SCE System Alternative 1 - 500 kV
- SCE System Alternative 2 - 220 kV
- SCE System Alternative 2 - 500 kV
- New Substation in SCE System Alternative 1

Existing Substation

Existing Transmisison Lines (Platts 2013)

- 230 kV
- 500 kV
- Major Highways
- Highways

Federal Land Ownership

- March Air Force Base
- Tribal Lands
- BLM
- BOR
- USFS

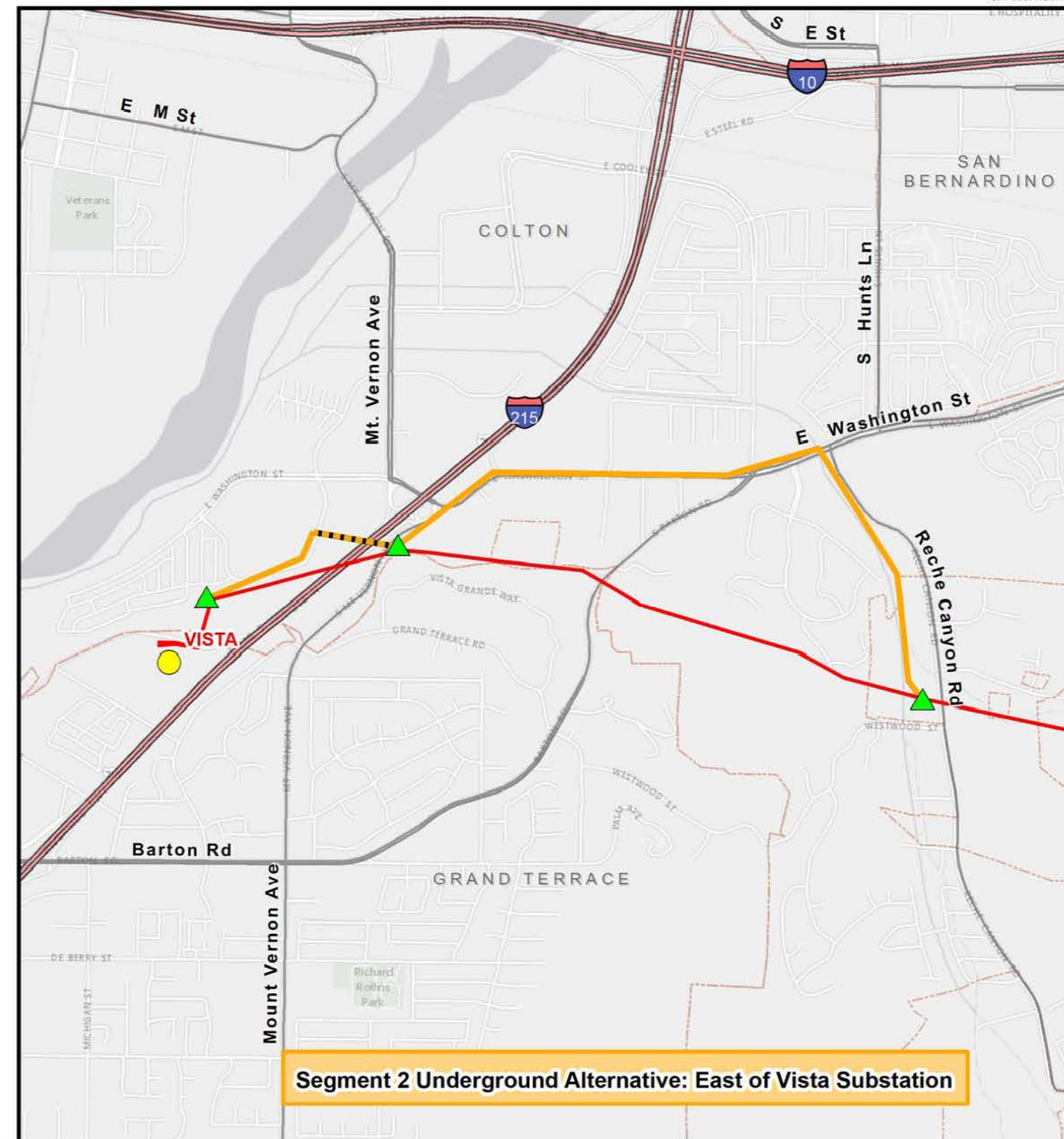
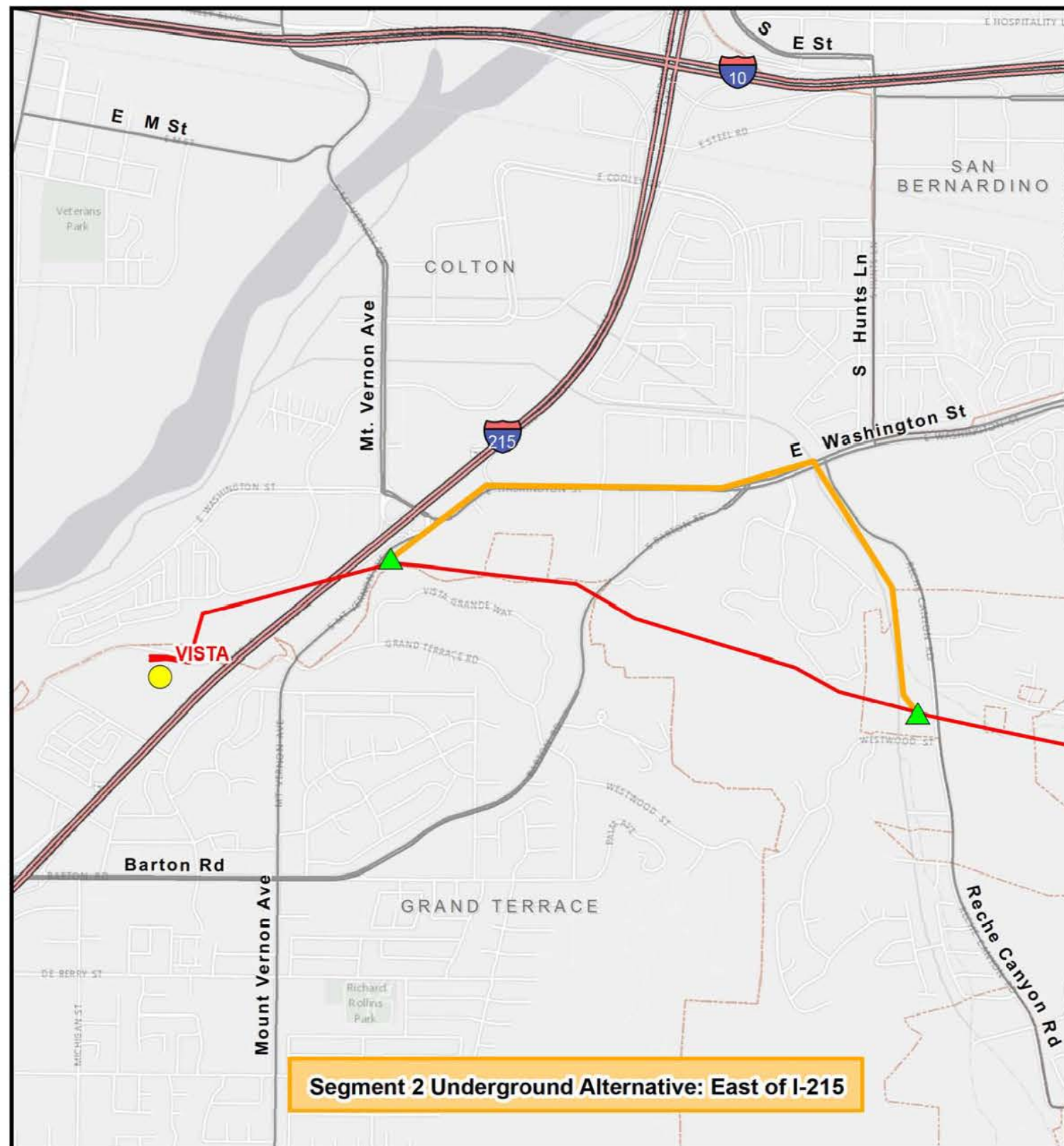
- FWS
- Local Government
- DOD Lands
- NPS
- State

West of Devers Upgrade Project

Figure C-2b  
System Alternatives Eliminated

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Sources: SCE 2014



0 0.25 0.5 1 Miles

- |                                   |   |                |
|-----------------------------------|---|----------------|
| Underground Transition Structures | Proposed 220 kV Transmission Line Route | Major Highways |
| Substation                        | Underground Segment                     | Highways       |
| City Boundary                     | HDD (Horizontal Directional Drill)      | Major Roads    |
|                                   |   | Local Roads    |

West of Devers Upgrade Project

Figure C-2c  
**Alternatives Considered  
but Not Screened for EIR/EIS Analysis**

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## C.4 Alternatives Evaluated in this EIS

As discussed in Section C.2, alternatives were assessed for their feasibility, their ability to reasonably achieve the basic project objectives, and their potential to reduce the significant environmental impacts of the Proposed Project. Based on these screening criteria, the alternatives described in this section were selected for detailed analysis within this EIS.

### C.4.1 Tower Relocation Alternative

This alternative was developed in response to scoping comments of residents who expressed concerns that some proposed towers would be closer to their homes than the existing structures.

#### *Description*

The Tower Relocation Alternative would place towers about 50 feet farther from adjacent residences in Segment 4 (Beaumont and Banning), Segment 5 (East Banning/Morongo), and Segment 6 (Whitewater) where potentially significant visual impacts have been identified. In general, the alternative would relocate 25 pairs of structures in Segment 4, 1 pair of structures in Segment 5, and 4 individual structures in Segment 6 approximately 50 feet to the north of the proposed tower locations. The general locations of the relocated towers defined in the Tower Relocation Alternative are illustrated in Figure C-1 and in detail on Figure C-3. Additional detail for each relocation segment is shown in Appendix 5 on Figures Ap.5-3a through Ap.5-3h.

#### *Rationale for Full Analysis*

The Tower Relocation Alternative would be feasible with respect to its constructability, reliability, and legal and regulatory factors. In addition, this alternative would reduce significant visual impacts of the Proposed Project and would reduce construction-related disturbance near sensitive residential receptors associated with the upgraded 220 kV lines by ensuring that relocated towers would be no closer to residences than the existing structures. It would meet the three Basic Project Objectives as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Tower Relocation Alternative would meet this objective by providing the same transfer capability and deliverability as the Proposed Project. The resulting capacity of 4,800 MW would exceed the 2,200 MW of increased deliverability defined in this objective.
- **Basic Project Objective 2, Support renewable energy goals:** Because the Tower Relocation Alternative would have the same transfer capacity as the Proposed Project, it would support renewable energy goals in the same manner.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** The Tower Relocation Alternative would be located within SCE's existing ROW. Even when shifting the structures 50 feet farther from residences in Segments 4 and 6, there would remain adequate space within the ROW (up to 175 feet) for transmission expansion, if needed by SCE in the future.

Because this alternative would reduce potentially significant impacts of the Proposed Project, it has been retained for full evaluation in this EIS.

## C.4.2 Iowa Street 66 kV Underground Alternative

This 1,600-foot underground alternative was developed by the EIS team to eliminate significant visual impacts of the proposed new 66 kV San Bernardino–Redlands-Tennessee subtransmission line to residences along Iowa Street in the City of Redlands.

### *Description*

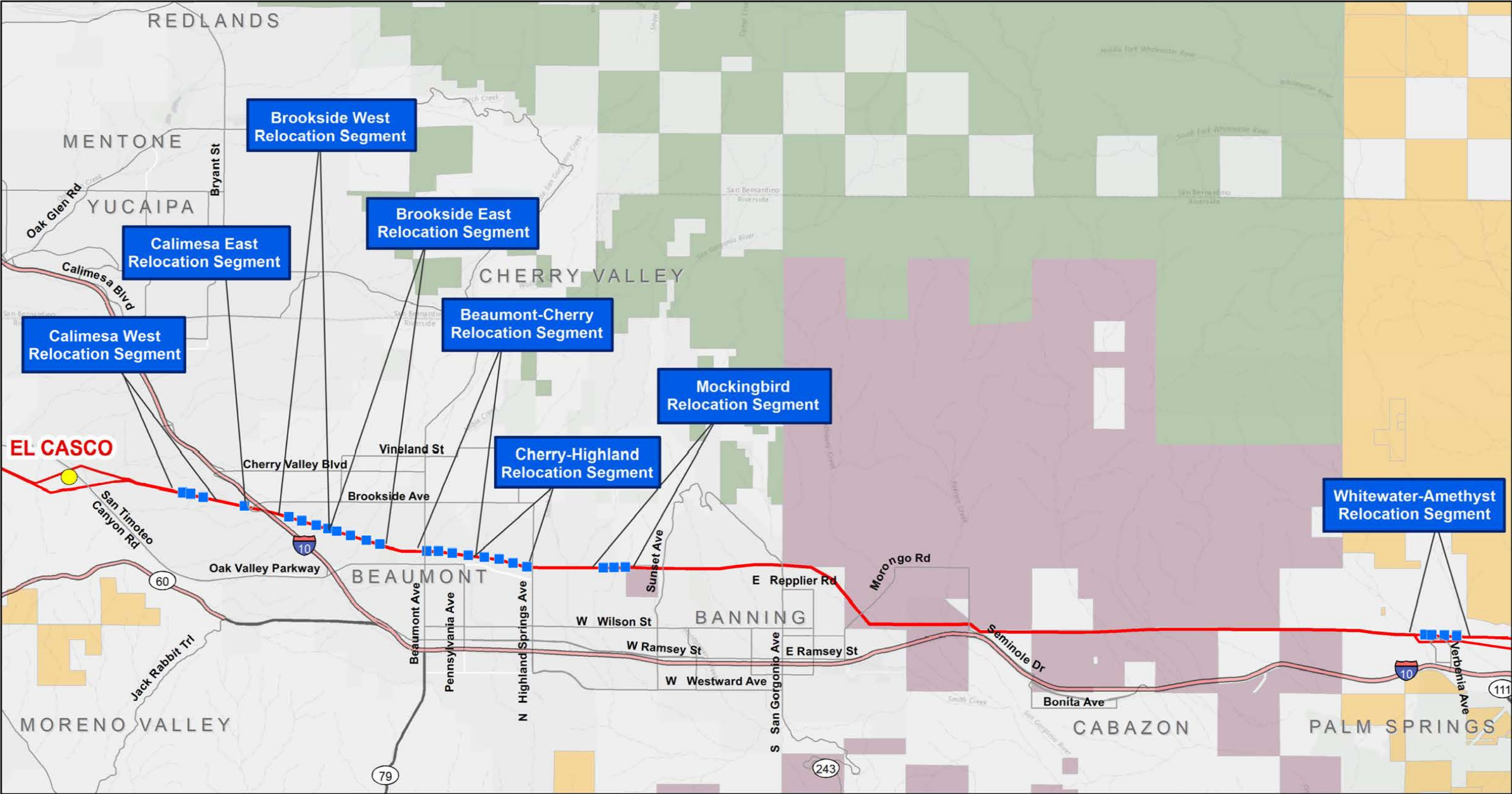
The Iowa Street 66 kV Underground Alternative would require that the 66 kV subtransmission line transition from overhead to underground in Iowa Street just south of the single-lane bridge, approximately 275 feet north of Iowa Street's intersection with Orange Avenue. The subtransmission line would travel underground in new conduit in Iowa Street for approximately 1,600 feet before transitioning from underground to overhead on the south side of Barton Road in line with the existing overhead San Bernardino–Redlands-Tennessee 66 kV subtransmission line running east-west along Barton Road. This underground alternative would replace a similar length of proposed new overhead subtransmission line that is part of the Proposed Project. The general location of this alternative is shown in Figure C-1 and the alternative is shown in detail in Figure C-4.

### *Rationale for Full Analysis*

This alternative would meet the two project objectives applicable to the 66 kV subtransmission line component of the Proposed Project (Basic Project Objectives 1 and 2), as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Iowa Street 66 kV Underground Alternative would meet this objective by providing the same transfer capability and deliverability as the Proposed Project. Therefore, this alternative would exceed the 2,200 MW of increased deliverability defined in this objective.
- **Basic Project Objective 2, Support renewable energy goals:** This alternative would facilitate progress toward achieving California's RPS goals in the same manner as the Proposed Project.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** This objective does not apply to the 66 kV subtransmission system.

In addition, the Iowa Street 66 kV Alternative would eliminate significant visual impacts associated with the new overhead 66 kV subtransmission line. The alternative would be feasible, since SCE is already proposing approximately 4,800 feet of underground 66 kV subtransmission line as part of the Proposed Project. The alternative is technically feasible, but SCE would evaluate the existing underground utilities in Iowa Street to determine the specific location of the 66 kV line within the roadway during engineering.



Sources: SCE 2014

- Substation
- Tower Relocation Alternative
- Proposed 220 kV Transmission Line Route
- Major Highways
- Highways
- BLM Land
- Forest Service Land
- Morongo Reservation

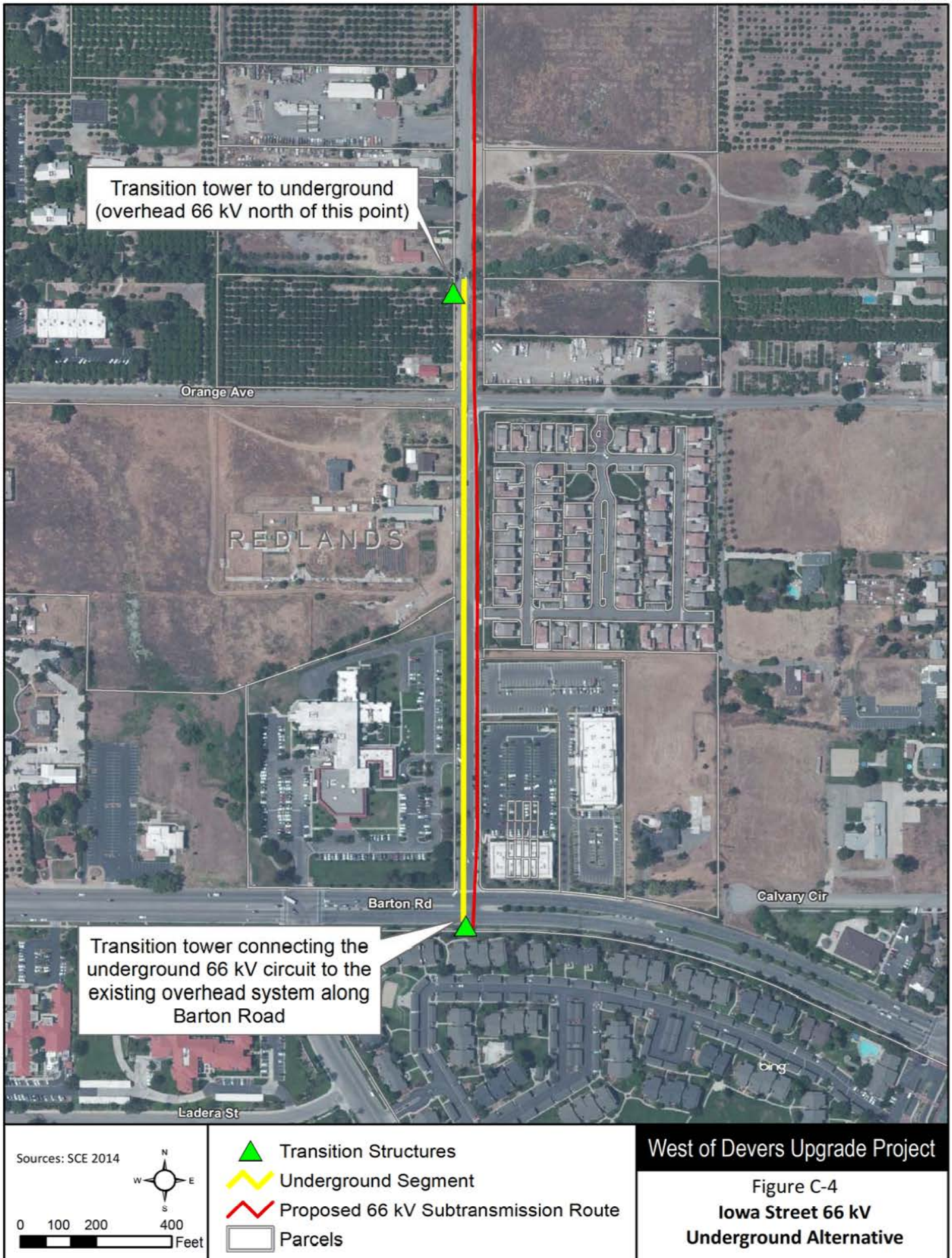
West of Devers Upgrade Project

Figure C-3

**Tower Relocation Alternative**

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### C.4.3 Phased Build Alternative

This alternative was developed to avoid most of the environmental impacts associated with removal of the existing double-circuit towers and construction of new double-circuit towers. The reduced transmission capacity (in comparison with the Proposed Project) was evaluated by the EIS team in power flow models to ensure that it would meet the Basic Project Objectives. This analysis is presented in detail in Appendix 5, Section 4.4 and in additional detail in Attachment 2 to Appendix 5 (Project Alternatives Assessment: A Power Flow Analysis). The alternative would reduce environmental impacts, while still providing capacity for all the generation included in the CAISO 2024 Reliability Base Case. This scenario includes 3,754 MW of Total Generation On-line and 6,901 MW of Total Generation Capacity from all renewable and conventional resources, as well as the power flow on the system resulting from import of 1,400 MW from the Imperial Irrigation District into the Los Angeles Basin. The alternative components are illustrated in Figure C-5.

#### *Description*

This alternative is derived from the project proposed by SCE in 2005 as the West of Devers System Upgrades. The purpose of this alternative is to reduce construction by retaining as many existing tower structures as possible and installing lighter-weight but higher-performance conductors on the retained towers. The high-performance conductors would maximize power transfer and avoid structurally overloading the existing towers. The alternative would:

- **Remove and replace existing single-circuit towers.** In most of the existing right-of-way (ROW), the two sets of existing single-circuit towers would be removed and one set of new double-circuit towers would be constructed to replace the removed towers. The new set of double-circuit towers would be constructed in the existing ROW paired with existing/retained structures, generally immediately north or south of the existing double-circuit towers, as detailed by segment below. The new set of double-circuit structures would be installed with an approximately 50-foot separation from the centerline of the existing (retained) structures, as defined for the Proposed Project.
- **Install interset towers where required.** Up to 110 interset structures would be required in Segments 3, 4, and 6. These structures would be required where the spans between retained towers exceed the strength of existing towers, and at locations where conductor blowout (where conductors could sway horizontally, potentially result in insufficient horizontal safety clearance to the adjacent line) could occur.
- **Ensure compliance with the requirements of the Tower Relocation Alternative** (as described in Final EIR Section 4.2). The Phased Build Alternative would retain (and not remove) most existing double-circuit structures near the center of the ROW. Constructing the second line adjacent to the retained structures ensures that no new structure would be located nearer to the edge of the ROW than is currently the case.
- **Retain existing double-circuit towers.** Most of the existing double-circuit towers would be retained.
- **Install high-capacity conductors on all four circuits.** Both the new and existing 220 kV double-circuit towers would have the “795 Drake” Aluminum Conductor Composite Reinforced (ACCR) installed, with the exception of Segment 1, where only two of the existing four circuits would be modified.
- **Allow for future capacity expansion of the existing corridor** with several optional future phases. These phases would be implemented as generation projects become certain and capacity is clearly required. Because the Phased Build Alternative would accommodate projects now defined in the CAISO’s 2024 Reliability Base Case, it may be 10 years before additional upgrades are needed. The

configuration of future transmission expansion that may be required cannot now be predicted, and would depend on many factors, including type and location of future renewable generation, the type and location of future transmission upgrades by SCE or other parties, and the regulatory systems and policies in place to define prudent investment in transmission capacity for renewable energy (e.g., policies differentiating between energy only procurement versus full capacity deliverability). The future phases could include:

- Reconductoring of the newly constructed 220 kV structures with higher capacity conductors;
- If required (based on assessment of structure strength with added interset structures), replacing some of the retained 220 kV structures with new, stronger 220 kV structures in order to carry heavier, higher capacity conductors;
- Installation of a single- or double-circuit 500 kV or 220 kV line in the vacant space remaining in the ROW.

In Appendix B of its Opening Brief, SCE stated that installation of the Phased Build Alternative's 795 ACCR conductor would require modification of SCE's planned wire stringing plan. The CEQA team agrees that the use of ACCR conductor would require changes to SCE's existing wire stringing plan, and that the PBA would likely result in a larger overall number of wire stringing sites due to the lower bending angle that ACCR allows. The majority of the stringing sites that SCE has defined for the Proposed Project would still be usable for the ACCR used in the Phased Build Alternative. Some different wire stringing sites would likely be required for ACCR, which would replace sites originally defined for the Proposed Project (ACSR) conductor, and some new sites would also be required.

In Segment 5 on Morongo land, the Phased Build Alternative structures would be exactly the same as those of the Proposed Project, as illustrated in Figure Ap.5-5b, and would incorporate the Morongo relocation of a part of the ROW and use of tubular steel poles. While the Morongo Band has a conditional contractual right to terminate its ROW Agreement with SCE, the Phased Build Alternative appears to be preliminarily feasible considering legal and regulatory factors, because it is currently uncertain whether the Morongo Band may or will exercise that right, and particularly because on Morongo lands the alternative is entirely consistent with the Project (as defined in Exhibit A to the DCA). Although the alternative is designed to meet the same project objectives as the Project described in the ROW Agreement and DCA and the tower structures would be exactly the same as SCE's Proposed Project on Reservation lands, comments from the Morongo Band assert that this alternative may be legally infeasible given the right of the Morongo Band to terminate the ROW Agreement if the SCE does not secure approvals by January 1, 2017 for the project described in the DCA (which arguably differs from the Phased Build Alternative in the tower locations off the Morongo Band lands, but is wholly consistent on Morongo Band lands). That termination right, however, has not been exercised and thus no such legal infeasibility currently exists. If that right is properly and timely exercised by the Morongo Band in the future, no transmission upgrades could be constructed across the Reservation absent the subsequent execution of a replacement ROW Agreement.

The Phased Build Alternative would use a composite reinforced conductor in an appropriate size to allow import from all generation projects that are reasonably foreseeable (i.e., included in the CASIO's 2024 Reliability Base Case, as well as allowing import of an additional 1,400 MW from the Imperial Valley). A high-performance conductor weighs less and has lower thermal expansion than the SCE-standard ACSR conductor, resulting in less sag for an equivalent strength and durability as the ACSR conductor. Therefore, using an alternative conductor in conjunction with interset towers would satisfy the basic project objectives while simultaneously avoiding the need to rebuild towers in the corridor.



The specific configuration of the Phased Build Alternative for each project segment is described in Section 4.4 in Appendix 5 of this EIS.

### ***Rationale for Full Analysis***

The Phased Build Alternative is retained for analysis because it would reduce the environmental impacts of the Proposed Project. Overall, the reduced construction required for the Phased Build Alternative would result in 20 percent to 25 percent less new structure construction than the Proposed Project and it would avoid the need to demolish nearly 160 structures. Both permanent and temporary ground disturbance would also be reduced by 20 percent to 25 percent. In addition, the new double-circuit structures would be moved further from the edge of the ROW than the Proposed Project. In addition, this alternative is technically feasible, based on data provided by SCE to the EIS team through formal data requests. The alternative conductor type has been proven and is in use by other utilities.

The Phased Build Alternative would achieve all three Basic Project Objectives as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Phased Build Alternative would allow SCE to fully deliver about 3,000 MW of the output from new generation projects, by providing an increase in deliverability that is 1,400 MW over the present capability of 1,600 MW and at least 2,200 MW over the capability of the WOD 220 kV corridor before the Proposed Project was planned, which was limited to approximately 550 MW. Based on power flow modeling completed for this alternative (see results in Table A-3 in Attachment 2 to EIS Appendix 5), this alternative satisfies the CAISO's 2024 Reliability Base Case, which includes specific generation projects that the CAISO has determined to be most likely to be constructed plus a scenario of 1,400 MW from IID to the CAISO.
- **Basic Project Objective 2, Support renewable energy goals:** This alternative would facilitate progress toward achieving California's RPS goals by adding more than 800 MW of transfer capacity for renewable energy projects located east of Devers Substation while accommodating at least 1,000 MW of future growth. This would support increased import of renewable generation into the Los Angeles basin.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** The Phased Build Alternative would meet this objective by removing the existing single-circuit towers to create space for future transmission lines, including a 500 kV line within the ROW, although less space would be available than with the Proposed Project. There would remain adequate space within the ROW (up to 175 feet) for transmission expansion, if needed by SCE in the future.

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**In Segment 1:**  
Re-use existing double-circuit towers and install new 795 Drake ACCR for two circuits from El Casco and Devers.

**In Segment 2:**  
Re-use existing double-circuit towers and install new 795 Drake ACCR for two circuits from Devers.

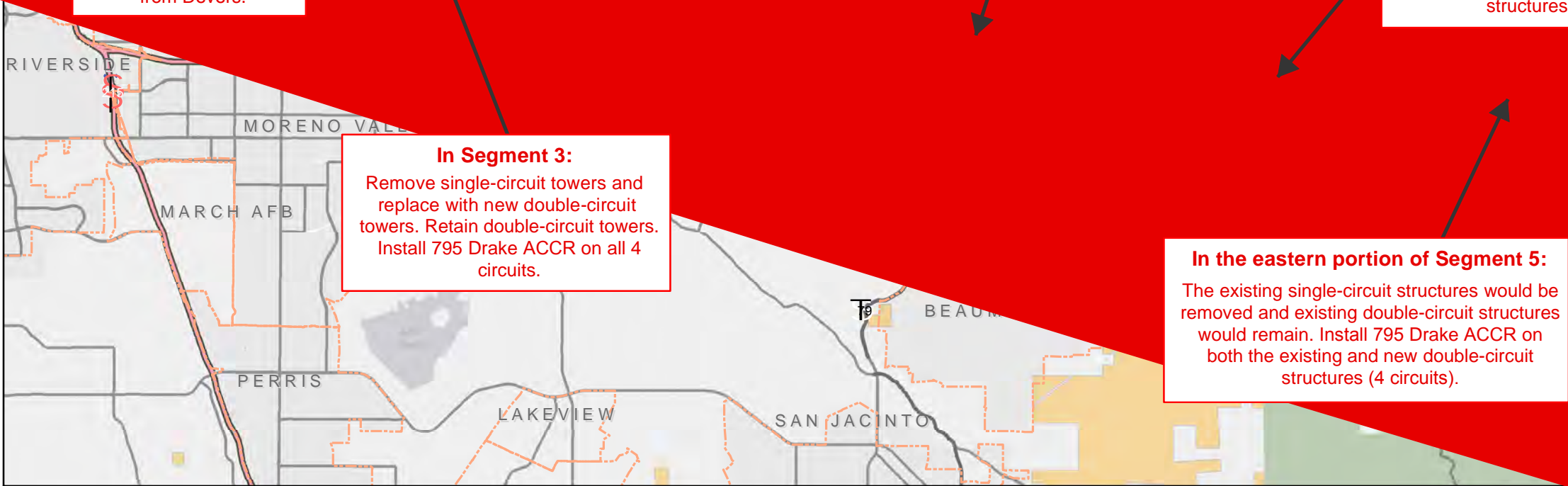
**In Segment 3:**  
Remove single-circuit towers and replace with new double-circuit towers. Retain double-circuit towers. Install 795 Drake ACCR on all 4 circuits.

**In Segment 4:**  
Remove single-circuit towers and replace with new double-circuit towers. Retain double-circuit towers. Install 795 Drake ACCR on all towers.

**In the western portion of Segment 5:**  
Where on Morongo land, all existing structures would be removed and the ROW would be relocated to the location shown. Two sets of new tubular steel poles would be constructed, and 795 Drake ACCR would be installed on all structures (4 circuits).

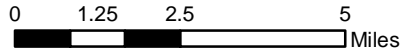
**In the eastern portion of Segment 5:**  
The existing single-circuit structures would be removed and existing double-circuit structures would remain. Install 795 Drake ACCR on both the existing and new double-circuit structures (4 circuits).

**In Segment 6:**  
Remove single-circuit towers and replace with new double-circuit towers. Retain double-circuit towers. Install 795 Drake ACCR on all 4 circuits.



Sources: SCE 2014

2



- |               |           |           |                 |                     |
|---------------|-----------|-----------|-----------------|---------------------|
| Substation    | Segment 1 | Segment 4 | Major Highways  | BLM Land            |
| Milepost      | Segment 2 | Segment 5 | Highways        | Forest Service Land |
| City Boundary | Segment 3 | Segment 6 | Major Roads     | Morongo Reservation |
|               |           |           | County Boundary |                     |

Figure 8  
Phased Build Alternative

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## C.5 Alternatives Eliminated from Full EIS Evaluation

### C.5.1 500 kV Towers Alternative

This alternative was developed to reduce the potential cumulative impacts resulting from construction of a future 500 kV transmission line in addition to the 220 kV upgrades that would be in place at that time. The alternative was eliminated because the Morongo Agreement specifically defines installation of 220 kV towers. Because the Tribe has not agreed to allow a 500 kV line across its land, the alternative would be infeasible.

#### *Description*

The 500 kV Towers Alternative anticipates a future 500 kV line being developed in the ROW, and would erect structures suitable for eventual use at 500 kV near the center of the ROW. In contrast to the pairs of 220 kV towers of the Proposed Project, the outer tower in this alternative would be a 220 kV tower, and the one nearer the center of the ROW would be a 500 kV structure. Initially, the lines on both structures would be energized at 220 kV, but eventually the 500 kV structure would be energized at 500 kV.

**Segment 1.** This alternative would not facilitate adding 500 kV service through Segment 1 (San Bernardino Substation to San Bernardino Junction) where the potential for blow-out (swinging) of lines over the edge of the ROW would preclude using taller and wider-spaced structures.

**Segments 2, 3, 4, and 6.** This alternative would allow the future 500 kV line to be farther from the edge of the ROW in Segments 2, 3, 4, and 6, between the Devers Substation and the Vista Substation. The 500 kV structure line in this alternative would be located at least 75 feet from the edge of the ROW in the areas where the ROW is split. At some future time when 500 kV service becomes needed in addition to the existing 220 kV service, SCE would presumably construct the second set of double-circuit 220 kV towers on the opposite side of the ROW from the initial 220 kV towers.

In Segment 2 (Vista Substation to San Bernardino Junction), existing lower-voltage (115 kV) circuits would need to be relocated to allow placement of the 500 kV structures in the widest portions of the ROW, and existing 220 kV structures in the northern portion of the ROW would need to be retained and used by the relocated lower-voltage circuits.

**Segment 5.** This alternative would not change the SCE Proposed Project for Segment 5 on the Morongo reservation, where only the Proposed Project has been approved by the Morongo Tribe in a ROW Agreement with SCE (see EIS Appendix 3). This alternative could proceed on the Morongo reservation only if it were recommended and approved by the Morongo Band of Mission Indians and a new ROW Agreement would need to be issued in order for it to move forward. Since the Morongo Tribe has not approved 500 kV service at this time, this alternative is not being contemplated for Segment 5. In the future, 500 kV structures would have to be constructed in or around Segment 5 to connect to the 500 kV structures at the western and eastern ends of the reservation. If the Morongo Tribe does not approve construction of a 500 kV line across tribal land in the future, a route around the reservation would need to be constructed.

Figures Ap.5-6a through Ap.5-6e in Appendix 5 shows the segments of the WOD corridor that would have 500 kV components installed rather than the proposed 220 kV towers. These figures also provide an example of a double-circuit 500 kV structure design, which would be approximately 190 feet tall. For additional information and a discussion of the cumulative impacts of the future 500 kV transmission line, see EIS Section E.2.3 (Future 500 kV Transmission Line in WOD Corridor).

### ***Rationale for Elimination***

This alternative would meet all three Basic Project Objectives. It is potentially economically feasible, although a future determination would need to be made as to the cost allocation. Installation of 500 kV structures and operation at 500 kV in the future would require a new agreement between SCE and the Morongo Tribe to be legally feasible. If an agreement for the 500 kV line is reached with the Morongo Tribe, the cumulative impacts of future transmission expansion would be reduced with the implementation of the alternative now. However, if the Morongo Tribe does not approve a 500 kV line when it is needed in the future, then it would not be legally feasible to construct a 500 kV line across tribal land. Because future use of the corridor at 500 kV would not be legally feasible without approval by the Morongo Tribe, this alternative has been eliminated from full evaluation in this EIS.

## **C.5.2 Segment 4 Underground Alternatives in Calimesa, Beaumont, and Banning**

This alternative was developed in response to scoping comments requesting consideration of underground segments. It was eliminated because construction impacts would be substantially more severe, and the impacts of the overhead Proposed Project can be mitigated with other overhead alternatives (see Section C.4, Alternatives Evaluated in this EIS).

### ***Description***

Three underground route options have been considered to reduce visual impacts to residences in these areas, as shown in Figure Ap.5-7 in Appendix 5 and on Figure C-2a.

- **Underground in Transmission Corridor.** Within the vicinity of residences in the Cities of Calimesa, Beaumont, and Banning, the transmission line would transition from overhead to underground and would be installed underground within SCE's existing ROW.
- **Underground North of Transmission Corridor (Beaumont).** This underground route option would transition from overhead to underground at North Deodar Drive near MP 19.2. From there the route would travel north in North Deodar Drive to Brookside Avenue where it would turn east and be installed within Brookside Avenue. At Beaumont Avenue, Cherry Avenue or Highland Springs Avenue the route would turn south within the roadway until it rejoins the proposed transmission corridor. At this point, the line would transition from underground to overhead within the transmission corridor on the eastern side of Beaumont Avenue, Cherry Avenue or Highland Springs Avenue.
- **Underground South of Transmission Corridor (Calimesa and Beaumont).** The alternative route option would transition from overhead to underground near MP 16.0. It would travel southeast in Oak Valley Parkway, east in Palmer Drive and east then southeast in Desert Lawn Drive to Oak Valley Parkway. From Oak Valley Parkway, the lines would be horizontally directional drilled for 800 to 1,200 feet to cross under I-10 to the east. The route would continue for 3.3 miles in Oak Valley Parkway to Highland Springs Avenue. At Highland Springs Avenue the route would turn north for 0.2 miles until it would rejoin the proposed transmission corridor and would transition from underground to overhead just east of Highland Springs Road (MP 23.3).

Two separate alignments of concrete duct banks would need to be installed in continuous trenches at least 8 feet wide, and underground vaults would be required approximately every 1,500 feet, in order to place the four 220 kV circuits in Segment 4 underground. Once the alternative was energized, SCE would remove the conductors from the existing overhead towers and may choose to remove the existing towers, but retain its ROW for future use, or have the towers remain in place for other uses within the ROW.

***Rationale for Elimination***

This alternative would meet most project objectives and would be feasible considering technical, legal, and regulatory factors. Undergrounding the proposed 220 kV lines would reduce or avoid visual impacts, but it would result in much more severe construction impacts related to dust, ground disturbance, and traffic and would pass two schools. Maintenance and repair times would also be increased. Furthermore, this segment of the ROW for the Proposed Project is 400 feet wide. Therefore, there is room within the ROW to modify structure locations to reduce impacts to residences, as has been considered under the Tower Relocation Alternative (see Section C.4.1), which would reduce the significant visual impacts in this area without creating new impacts of its own.

**C.5.3 Segment 5 Morongo Central Route Alternative (original PEA Proposed Route)**

This alternative segment was evaluated because it was the original route presented in SCE's PEA. The route segment across tribal land was eliminated because the Morongo Tribe indicated its preference for the Proposed Project route, so this segment would not be feasible.

***Description***

This alternative was proposed by SCE in its PEA (PEA Section 2.2.1.1; SCE, 2013). The Segment 5 Morongo Central Route Alternative would depart from the Proposed Project immediately west of the Morongo reservation at North Hathaway Street (MP 27.4). The alternative route would continue to the southeast on a diagonal route, south of the existing transmission corridor and approximately 500 to 1,500 feet north of the currently proposed route, for approximately 3 miles. It would rejoin the Proposed Project west of Malki Road on the Morongo reservation land (see Figures C-2a and Ap.5-8 in Appendix 5). The alternative route would be approximately 0.13 miles shorter than the Proposed Project.

***Rationale for Elimination***

This alternative would meet all three Basic Project Objectives and would be feasible considering technical and regulatory factors. However, given the stated preference and approval by the Morongo Tribe for the proposed southern route and that approval of this alternative by the Morongo Tribe would be required, this alternative is highly unlikely to be legally feasible.

**C.5.4 Segment 5 Morongo Existing 220 kV Route Alternative (Existing ROW)**

This alternative segment was evaluated because it is the existing ROW across the westernmost portion of Morongo tribal land. It was eliminated because the Morongo Tribe indicated its preference for the Proposed Project route, so this segment would not be feasible.

***Description***

Under this alternative, SCE's proposed 220 kV transmission upgrades would occur within the existing transmission corridor and SCE's ROW would not be relocated on the Morongo reservation. The Segment 5 Morongo Existing 220 kV Route Alternative would depart from the Proposed Project immediately west of the Morongo reservation at North Hathaway Street (MP 27.4). The alternative route would continue to the southeast then east for 1.6 miles before turning southeast on a diagonal to rejoin the Proposed Project west of Malki Road on the Morongo reservation land (see Figures C-2a and Ap.5-8 in Appendix 5). The alternative route would be approximately the same length as the Proposed Project.

### ***Rationale for Elimination***

This alternative would all Basic Project Objectives and would be feasible considering technical and regulatory factors. However, given the stated preference and approval by the Morongo Tribe for the proposed southern route and that approval of this alternative by the Morongo Tribe would be required, this alternative is highly unlikely to be legally feasible.

## **C.5.5 East Banning/Morongo Alternative**

This alternative segment was developed by the EIS Team to reduce significant visual impacts to residences in Banning. The route across tribal land was eliminated because the Morongo Tribe indicated its preference for the Proposed Project route, so this segment would not be feasible.

### ***Description***

This alternative was developed by the EIS Team to reduce significant visual impacts of the new tubular steel poles (TSPs) from residences on North Hathaway Street and North Evans Street in the City of Banning. The existing lattice towers are located 2,500 feet away from these residences. At the Morongo Tribe's request, the proposed towers would be 1,700 feet away and would be TSPs, which have greater bulk, making them more visible.

As shown in Figures C-2a and Figure Ap.5-9 in Appendix 5, this 0.6-mile alternative would replace 0.7 miles of the proposed route and would involve moving the TSPs farther from residences. The alternative would begin at approximately Milepost 28.8 where the route would diverge from the Proposed Project by continuing in a southeast direction to the east and north of the proposed route. The alternative would continue in a straight line rejoin the Proposed Project at MP 29.5 after the proposed route would turn from southeast to east on Morongo land.

### ***Rationale for Elimination***

This alternative would meet all of the Basic Project Objectives and would be feasible considering technical and regulatory factors. However, given the stated preference and approval by the Morongo Tribe for the proposed southern route and that approval of this alternative by the Morongo Tribe would be required, this alternative is highly unlikely to be legally feasible.

## **C.5.6 Devers-Beaumont 500 kV Alternative (SCE System Alternative 1)**

This alternative was evaluated because SCE presented it as a potential alternative in its PEA. It has been eliminated because it would have substantially more severe environmental impacts than the Proposed Project. Note that this alternative is described in Section C.6.3.1 as the No Action Alternative, Option 1. Impacts of that alternative are analyzed in Section D.

### ***Description***

This alternative was proposed by SCE in its PEA as System Alternative 1, New 500/220 kV Substation and New 500 and 220 kV Transmission Lines (PEA Section 2.1.2.2; SCE, 2013). This alternative would include removal of approximately 30 miles of existing 220 kV lines and structures in the WOD corridor between Devers and El Casco Substations, which would eliminate impacts of the existing transmission lines and the Proposed Project to the Morongo Tribe, and the cities and communities from Beaumont to the eastern end of the project.



The Devers-Beaumont 500 kV Alternative would require construction of a new 500/220 kV substation near the City of Beaumont, a new 500 kV transmission line in new and existing ROW between Devers Substation and the new 500/220 kV substation, four new 220 kV transmission lines in a new ROW between the new 500/220 kV substation to the existing WOD corridor, and upgrades to the existing WOD 220 kV transmission lines and associated existing substations between El Casco, San Bernardino, and Vista Substations (see Figures C-2b and Ap.5-10 in Appendix 5). The Devers-Beaumont 500 kV Alternative would also require acquisition of property to construct a new 500/220 kV substation that would be located near the City of Beaumont. Finally, the Devers-Beaumont 500 kV Alternative would require construction of upgrades to the existing 220 kV transmission lines between the existing El Casco, San Bernardino, and Vista Substations. Specific components of this alternative are described in Section 5.7 in Appendix 5 of this EIS.

#### ***Rationale for Elimination***

This alternative would meet all three Basic Project Objectives and has the potential to be technically and legally feasible. Construction of a new corridor and 500 kV/220 kV substation in the sensitive environment of the San Jacinto-Santa Rosa National Monument and the San Bernardino National Forest, as well as through the developed areas of Banning and Beaumont would create construction disturbance and greater visual impacts to residences and sensitive receptors in these areas without providing any environmental advantages over the Proposed Project. Therefore, this alternative was eliminated from full consideration in this EIS.

### **C.5.7 Red Bluff–Valley-Serrano 500 kV Alternative (SCE System Alternative 2)**

This alternative was considered because it was presented as a potential alternative in SCE's PEA. It was eliminated because it would have substantially more severe environmental impacts than the Proposed Project, and is likely infeasible to permit given the federal and tribal jurisdictions it would likely have to cross. Note that one segment of this alternative, the addition of a second 500 kV circuit from SCE's Valley Substation to its Serrano Substation, is considered as a component of the No Action Alternative, Option 2. This alternative is described in Section C.6.3.2, and impacts are analyzed in Section D.

#### ***Description***

This alternative was proposed by SCE in its PEA as System Alternative 2, New 500 kV Transmission Line (PEA Section 2.1.2.3; SCE, 2013) and is shown in Figures C-2b and Ap.5-11 in Appendix 5. Under the Red Bluff-Valley-Serrano 500 kV Alternative, a new 500 kV transmission line would be constructed on new ROW between the existing Red Bluff, Valley, and Serrano Substations. The alternative would also require reconfiguration of the existing 220 kV circuits between El Casco, Vista, and San Bernardino Substations. Finally, the Red Bluff–Valley-Serrano 500 kV Alternative would require construction of 220 kV transmission line between Mira Loma and Vista Substations, and would require upgrades to Serrano Substation to increase the substation transfer capability. Specific components of this alternative are described in Section 5.8 in Appendix 5 of this EIS.

#### ***Rationale for Elimination***

This alternative would meet all three Basic Project Objectives and has the potential to be technically feasible. If the route were proposed through the wilderness areas and tribal lands (which would be very difficult to avoid based on SCE's schematic map), the regulatory and legal feasibility of this alternative would be highly improbable. In addition, construction of new, much longer corridors especially in the developed areas of the Inland Empire would create greater construction disturbance and visual impacts to residences and sensitive receptors in these areas without providing any environmental advantages over the Proposed Project. Therefore, this alternative was eliminated from full consideration in this EIS.

### C.5.8 Reduced Build Alternative Option 1

This alternative was developed to consider the feasibility of the West of Devers project as proposed in 2005. The alternative would reduce the impacts of the Proposed Project by retaining the existing double-circuit towers rather than removing and rebuilding them. However, the Reduced Build Alternative Option 1 is eliminated because the double-bundled 1033.5 kcmil conductors proposed in 2005 could not now be safely supported on these towers given SCE's updated wind loading criteria. Due to the tower replacement and strengthening required for 60 percent of existing structures, the alternative would require nearly as much construction as the Proposed Project. As a result, it would not significantly reduce the environmental impacts of the project as proposed.

#### *Description*

This alternative is similar to the project proposed by SCE in the 2005 West of Devers System Upgrades and analyzed as the Proposed Project in the DPV2 EIR/EIS (CPUC and BLM, 2006). In this option:

- The two sets of existing single-circuit towers would be removed and one set of new double-circuit towers would replace those towers; and,
- The existing double-circuit towers would be retained and reconductored, with double-bundled 1033.5 kcmil ACSR. Reconductoring the 40 miles of existing double-circuit towers would involve tower replacement and strengthening for 60 percent of existing structures (SCE, 2015).

When compared with the Proposed Project, each of the four circuits would consist of smaller double-bundled 1033.5 kcmil ACSR (2B-1033 ACSR) for their entire length, which was SCE's design for the corridor in 2005. SCE Response to DR ALT-18a indicates that under this alternative, 60 percent of the existing double-circuit structures would need to be replaced. Specific components and configuration of this alternative are described in Section 5.9 in Appendix 5 of this EIS.

#### *Rationale for Elimination*

The Reduced Build Alternative Option 1 is technically and legally feasible. It would meet the three Basic Project Objectives as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Reduced Build Alternative Option 1 Alternative would achieve Basic Project Objective 1 by exceeding 2,200 MW of increased deliverability. This alternative would result in a corridor system rating of about 3,400 MW.
- **Basic Project Objective 2, Support renewable energy goals:** This alternative would facilitate progress toward achieving California's RPS goals by increasing the capacity of the WOD corridor by roughly 1,800 MW. This would support increased import of renewable generation into the Los Angeles basin.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** This alternative would retain adequate space within the ROW (up to 175 feet) for transmission expansion, if needed by SCE in the future.

The Reduced Build Alternative Option 1 is eliminated from detailed analysis because the required replacement of 60 percent of existing towers would not substantially avoid or reduce the environmental impacts of the Proposed Project.

### C.5.9 Reduced Build Alternative Option 2a

The Reduced Build Alternative Option 2a was developed to maximize the conventional conductor size that could be installed on the new and existing towers, while minimizing the need for new construction in Segments 3 through 6. However, it was eliminated because data from SCE indicated that the larger conductors could not be supported on the existing towers, requiring approximately 60 percent of them to be replaced or strengthened. As a result, the alternative would not significantly reduce the environmental impacts of the project as proposed.

#### *Description*

Reduced Build Option 2a would reuse and reconductor the existing double-circuit towers with a two-conductor bundle of 1033.5 kcmil ACSR (as proposed in 2005), and install one set of new double-circuit towers with 2B-1590 ACSR, as in the Proposed Project. Specific components and configuration of this alternative are described in Section 5.10 in Appendix 5 of this EIS.

#### *Rationale for Elimination*

The Reduced Build Alternative Option 2a is technically and legally feasible. It would meet all three Project Objectives as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Reduced Build Alternative Option 2a would achieve Basic Project Objective 1 and would exceed 2,200 MW of increased deliverability. This alternative would result in a corridor system rating of about 3,400 MW.
- **Basic Project Objective 2, Support renewable energy goals:** This alternative would facilitate progress toward achieving California's RPS goals. The alternative would meet this objective by increasing the capacity of the WOD corridor by roughly 1,800 MW. This would support increased import of renewable generation into the Los Angeles basin.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** This alternative would retain adequate space within the ROW (up to 175 feet) for transmission expansion, if needed by SCE in the future.

It is eliminated from detailed analysis because the requirement to rebuild 60 percent of existing structures results in it being unlikely to avoid or eliminate the significant environmental impacts of the Proposed Project.

### C.5.10 Reduced Build Alternative Option 2b

The Reduced Build Alternative Option 2b was developed to maximize the size of conventional conductors that could be installed on the new and existing towers while still staying within SCE's new wind loading guidelines. It was eliminated because SCE's wind guidelines would allow only smaller (1033.5 kcmil) and single-bundled conductors on the existing towers, and this conductor scheme would not carry enough electricity to meet the first basic project objective's minimum deliverability requirements.

#### *Description*

Reduced Build Alternative Option 2b would retain the existing conductors on existing double-circuit towers without modification, and install one set of new double-circuit towers with 2B-1590 ACSR, as in the Proposed Project. Specific components and configuration of this alternative are described in Section 5.11 in Appendix 5 of this EIS.

### ***Rationale for Elimination***

The Reduced Build Alternative Option 2b is feasible, and it has the potential to reduce the environmental impacts of the Proposed Project. It would not meet all three Basic Project Objectives, as follows:

- **Basic Project Objective 1, Increase system deliverability:** The Reduced Build Alternative Option 2b only partially meets Basic Project Objective 1, but cannot fully achieve it due to the small conductor size on the retained double-circuit towers. This alternative would result in a corridor system rating of about 2,300 MW, which would not sufficiently increase deliverability, as defined in this objective.
- **Basic Project Objective 2, Support renewable energy goals:** This alternative would partially meet this objective by adding roughly 700 MW of capacity for renewable projects. This would only partially support increased import of renewable generation into the Los Angeles basin.
- **Basic Project Objective 3, Maximize remaining space in the corridor:** This alternative would retain adequate space within the ROW (up to 175 feet) for transmission expansion, if needed by SCE in the future.

The Reduced Build Alternative Option 2b is eliminated from detailed analysis because it would not meet most of the Basic Project Objectives.

### **C.5.11 High-Performance Conductor Alternative**

This alternative was developed to evaluate the potential use of 4 circuits of double-bundled high-performance conductors of a similar size to SCE's proposed ACSR conductors. It is eliminated because it would not reduce or avoid the impacts of the Proposed Project.

#### ***Description***

The High-Performance Conductor Alternative would upgrade the 220 kV corridor by replacing the existing towers as proposed and installing aluminum conductor composite reinforced (ACCR) or aluminum conductor composite core (ACCC) conductors instead of the proposed ACSR conductors. The conductors in this alternative would be double-bundled conductors of comparable physical size to those in the Proposed Project. The alternative conductor for the four primary circuits in this case would be 2B-1590 Lapwing ACCR, which would be capable of achieving 158% of Proposed Project electrical capacity. When compared with construction of the Proposed Project, which would upgrade the existing 220 kV transmission lines to carry 5,168 MW under normal conditions (with all lines in service) for the four primary circuits combined, this alternative would carry 8,163 MW.

#### ***Rationale for Elimination***

The High-Performance Conductor Alternative is eliminated from detailed analysis because it would be unlikely to reduce or avoid any project-related impacts. Additionally, it would incur higher costs than the Proposed Project without having any potential to avoid or substantially lessen the environmental impacts of the Proposed Project.

### **C.5.12 Retain WOD Interim Facility Alternative**

This alternative was suggested in a comment on the Draft EIR/EIS by the CPUC's Office of Ratepayer Advocates (ORA). ORA requested evaluation of a smaller capacity alternative than those retained for analysis (Section C.4). ORA believes there is no need for system capacity in California to justify a major transmission expansion to increase the pool of capacity resources.

### ***Description***

This alternative would retain the existing SCE 220 kV system between Devers Substation and the Vista and San Bernardino Substations, with no removal or upgrades to existing transmission circuits. However, rather than removing the WOD Interim Facility as proposed by SCE, this facility would remain in place. As described in Section B.1.1, the West of Devers Interim Project was constructed in response to requests from several generators for interconnection earlier than the Proposed Project's estimated completion date in 2020. Therefore, SCE constructed the interim facility, which added approximately 1,050 MW of additional transfer capability, yielding a total of approximately 1,600 MW of capability for the WOD 220 kV corridor. This facility is located in a separately fenced yard, just west of the Devers Substation.

ORA suggests that this alternative would also include the 3-mile transmission line relocation defined by the Morongo Band in the area just west of the Outlet Mall, where the existing ROW would be relocated to the south, paralleling the I-10 freeway. This relocation includes installation of tubular steel poles rather than lattice towers in some locations.

### ***Rationale for Elimination***

The Retain WOD Interim Facility Alternative is eliminated from detailed analysis because it would not meet any project objectives. While it would eliminate short-term construction impacts, it would create the need for increased system maintenance.

## **C.6 No Action Alternative**

NEPA requires an evaluation of a No Action Alternative in order for decision-makers to compare the impacts of approving a project with the impacts of not approving a project.

Section C.6.1 provides background on the requirements for a No Action Alternative under NEPA. Section C.6.2 provides background information on the current electric transmission plans and the existing transmission infrastructure that form the context of the proposed WOD Upgrade Project. Section C.6.3 describes what would be reasonably expected to occur in the foreseeable future if the WOD Upgrade Project were not approved. This section describes a scenario for determining the environmental effects that would likely occur if the project were not approved.

### **C.6.1 Analysis Requirements**

The **No Action Alternative** required under NEPA [40 C.F.R. 1502.14(c)] serves as a basis for comparison even if it would not satisfy the proposed action's purpose and need. The definition of the No Action Alternative depends on the nature of the project and in the case of the Proposed Project the No Action Alternative describes what would occur without BLM's approval.

### **C.6.2 Background and Current Plans**

There are two main planning issues that must be considered in development of the No Action Alternative scenario.

1. **CAISO Transmission Plan.** This plan identifies new transmission needs to ensure system reliability and ensure compliance with California's public policy goals to reduce greenhouse gas emissions and increase development of renewable resources. Because recent CAISO Transmission Plans show that the currently proposed West of Devers Upgrade Project would connect urban load centers with gen-

erators in the Riverside East, Imperial North, and Palm Springs areas and in Arizona (CAISO, 2011), the No Action Alternative scenario must consider how the new generators might be impacted if the Proposed Project does not materialize. The relevant aspects of the CAISO Transmission Plan is described in Section C.6.2.1.

2. **Morongo Band of Mission Indians Authorizations.** The Morongo Band has authorized SCE to renew rights-of-way across tribal land, and these ROWs are contingent upon the tribe's ability to invest in the Proposed Project. Accordingly, the No Action Alternative scenario must consider the potential effect on tribal agreements if the Proposed Project does not move ahead. These agreements are described in Section C.6.2.2.

#### **C.6.2.1 Current Transmission Plans**

The concepts for the Proposed Project originated in SCE's 2005 proposal for the Devers–Palo Verde No.2 Project (DPV2). As described in EIS Section A.1.2, Project History, and EIS Section B.1.1, Historical Background in Project Area, SCE did not receive approval for the West of Devers portions of the DPV2 Project in the 2007 CPUC Decision D.07-01-040. Instead, SCE built the second 500 kV circuit from Devers to the Valley Substation (Devers-Valley No.2 500 kV) and then later, in 2013, SCE installed the West of Devers Interim Project, as also described in Section B.1.1.

Rebuilding the West of Devers corridor was the subject of study in the CAISO's formal annual transmission plans released in 2007, 2008, and 2009. In those earlier studies, rebuilding the corridor was characterized by the CAISO as being "reliability-driven" to address potential overloads on the individual lines. SCE implemented an overload protection scheme in 2007 to address reliability concerns defined by the CAISO: the West of Devers Remedial Action Scheme.

The 2010-2011 CAISO Transmission Plan (May 2011) included the first transmission assessments that accommodated new renewable power to help meet California's 33 percent Renewable Portfolio Standard (RPS). Since that time, CAISO has showed the currently proposed West of Devers Upgrade Project as preceding other "policy-driven" upgrades to deliver power from the new generators in the Riverside East, Imperial North, and Palm Springs areas and from Arizona (CAISO, 2011). In 2013, the West of Devers Interim Project went into service (see Section B.1.1, Historical Background in Project Area), as a "short-term solution" allowing renewable project owners to deliver their generation to load. This facility was always intended to be temporary, in advance of the Proposed Project.

The most-recent CAISO Transmission Plan (March 2015) continues to define the Proposed Project as a base case upgrade that supports the interconnection agreements for development of renewable generation resources, primarily in eastern Riverside County.

Although the Proposed Project is shown to precede "policy-driven" upgrades by CAISO, the West of Devers corridor continues to include components that include temporary or interim measures to preserve reliability. This means that corridor loading must continue to be monitored by CAISO, and certain operating procedures, including re-dispatching generation in the L.A. Basin, remain in effect to prevent overloading that could occur in the absence of the Proposed Project (CAISO, 2012). The solutions that SCE has implemented to prevent overloading the existing WOD lines include:

- **West of Devers Recommended Operating Temperatures.** Existing circuits in the corridor are operated at temperature of that do not exceed 201 degrees F to avoid the potential for the conductors to sag too close to the ground in high temperatures (SCE, 2015; SCE Response to ALT-21b and ALT-21c). These possible "clearance violations" are prohibited by CPUC's General Order 95.

- **West of Devers Remedial Action Scheme.** In 2007, CAISO found a need to establish a Special Protection Scheme (SPS)<sup>1</sup> that would require certain generators to be turned offline during certain conditions (CAISO, 2013). The SPS is also known as the Devers Remedial Action Scheme. The SPS exists to protect the Devers–San Bernardino No.1 220 kV line from overloading during outages of the other 220 kV lines in the WOD corridor or an outage of the Devers–Valley 500 kV system. If these outages occur, specific generators in eastern Riverside County have to be taken offline. As a result, a corresponding increase in the use of power plants inside the Los Angeles basin may occur. The result is increased reliance on less-efficient power plants or those using fossil fuels and causing greater emissions than would otherwise occur during a normal merit-based or economic dispatch order.
- **West of Devers Interim Project.** In 2011, CAISO found that placing series reactors on the Devers–San Bernardino 230 kV line and Devers–El Casco 230 kV line could balance the line loading on the existing WOD transmission lines. These reactors were installed in 2013; these reactors have been redirecting power flows onto the 500 kV system between the Devers and Valley Substations (also see Section B.1.1, Historical Background in Project Area).

#### C.6.2.2 Morongo Band of Mission Indians

The existing West of Devers 220 kV ROW crosses approximately 3 miles of Morongo Band tribal lands west of Palm Springs within San Gorgonio Pass. SCE's ROW across Morongo tribal lands is 450 feet wide with 150 feet for the Devers–Vista No. 1 line and 300 feet for both the Devers–San Bernardino No. 1 line and the double-circuit Devers–San Bernardino No. 2 and Devers–Vista No. 2 lines. The Morongo Tribe lease for the 150-foot Devers–Vista No. 1 ROW expired in 2010 and the lease for the 300-foot ROW expires in 2019.

SCE and Morongo entered into a new 50-year ROW agreement in November 2012 that covers the entire Proposed Project Morongo segment. As part of the SCE–Morongo ROW agreement, SCE and Morongo have requested authorization from the Federal Energy Regulatory Commission (FERC) and the CPUC that would allow the Tribe to lease transfer capability of the Proposed Project. If FERC and CPUC regulatory approvals are not obtained, the tribe would have the right to terminate the SCE–Morongo ROW agreement. Without this ROW agreement, SCE would need to negotiate a new agreement, or to design and propose a different project that does not cross the reservation. Based on the SCE–Morongo ROW agreement, SCE will also apply to the Federal Bureau of Indian Affairs (BIA) for the grant of ROW along the Proposed Project alignment across Morongo tribal trust lands, and Morongo will consent to SCE's application.

The Proposed Project could be affected in two ways related to the arrangements between SCE and the Morongo Band. First, if CPUC and/or FERC do not approve the Morongo Band's requested lease of transfer capacity for the Proposed Project, the tribe has no obligation to approve a modified and extended ROW for SCE's existing transmission lines. Second, if the Proposed Project is not approved as proposed, the terms of the ROW agreement give the Morongo the right to terminate the new ROW agreement. Because SCE does not have the power of eminent domain over the Morongo trust lands, in the event the Morongo terminate the ROW agreement, the Morongo Band has the right to require the lines within expired ROWs to be removed at any time (SCE, 2014; SCE Response to ALT-6).

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<sup>1</sup> An SPS is designed to detect abnormal system conditions and take automatic, pre-planned, corrective action (other than the isolation of faulted elements) to provide acceptable system performance. SPS actions may result in reduction in load or generation, or changes in system configuration to maintain system stability, acceptable voltages, or acceptable facility loading (SCE PEA, p.1-12, October 2013).

### C.6.3 No Action Alternative Scenario

Under the No Action Alternative, construction and operation of the proposed WOD Upgrade Project would not occur. However, as described in Section A, there is a well-defined need for at least an additional 2,200 MW of additional deliverability of electricity from the area east of the Devers Substation to the Los Angeles Basin. Therefore, if the Proposed Project is not approved by the CPUC or BLM, or if the Morongo Agreement is not approved by FERC allowing the tribe to act as a partial project owner, it is reasonable to assume that a different transmission system improvement would be implemented.

SCE's PEA did not present specific No Action options. The description of the No Action Alternative provided by SCE in its PEA is brief, as follows:

*Under the No Project Alternative, the Proposed Project would not be constructed. Given that the existing WOD transmission lines limit the ability to safely and reliably deliver the output of new generation, SCE would not be able to meet its PPA [Power Purchase Agreement] and GIA [Generator Interconnection Agreement] obligations. (SCE, 2013; PEA, p. 2-11.)*

Because it is not possible to know with certainty whether the Morongo agreement could be renegotiated in the absence of the Proposed Project, two options for the No Action Alternative are defined. Two options are considered to be the most likely actions if the Proposed Project or an alternative does not proceed: No Action Alternative Option 1 (described in Section C.6.3.1) and No Action Alternative Option 2 (described in Section C.6.3.2).

#### C.6.3.1 No Action Alternative Option 1

In SCE's 2014 Response to EIR/EIS Data Requests (SCE, 2014; Response to ALT-6), SCE states that in the absence of a new agreement, SCE would propose to construct an alternative transmission system upgrade. SCE states that the alternative transmission system upgrade that is most likely would be the SCE PEA "System Alternative 1," which would include a new Devers-to-Beaumont 500 kV system. No Action Alternative Option 1 is based on SCE's description, but is modified slightly to account for land use or engineering constraints defined by the EIS team.

In SCE's response to Data Request 7, SCE states, "... it is unlikely that SCE and the Morongo could reach an agreement for SCE's facilities to remain on the reservation in the absence of the WOD Upgrade Project." As a result of this stated expectation, this option would include removal of all SCE facilities from Morongo land, and require the development of a transmission route from the Devers Substation to the El Casco Substation that would not require use of any Morongo land. The main components of No Action Alternative Option 1 include:

- Removal of existing 220 kV SCE transmission facilities between the Devers Substation and the El Casco Substation, on Morongo land and on private land
- Removal of the WOD Interim Project
- Construction of 26 miles of new 500 kV transmission line from Devers to new Beaumont Substation
- Construction of new Beaumont Substation
- Construction of 4 new 220 kV circuits from Beaumont Substation to El Casco Substation
- Construction of replacement 220 kV lines between El Casco Substation to Vista and San Bernardino Substations (as in Proposed Project).



**No Action Alternative Option 1B.** An additional sub-option was also considered, but it was eliminated because it did not perform adequately based on the power flow analysis (see EIS Appendix 5, Attachment 2). In this option, there would be no new 500 kV circuit between Devers and Beaumont, but SCE would use the available capacity of the two existing Devers-Valley lines to carry all flow out of the Devers Substation. There would be a new Beaumont Substation added (about 7 miles east of El Casco) and both of the Devers-Valley circuits would be looped into that new substation. There would be 4-220 kV circuits (with 1590 ACSR conductor as proposed) to the El Casco/Vista/San Bernardino as currently proposed.

### ***Route Description***

According to SCE (PEA Section 2.1.2.2; SCE, 2013), SCE would design, permit, and build a new 500/220 kV transmission system located south of the Proposed Project. The alternative is defined in 3 segments: the new 500 kV circuit, the new “Beaumont Substation,” and the new 220 kV line between the Beaumont Substation and the El Casco Substation. The new transmission system is illustrated on Figure C-6a.

**New 500 kV Circuit from Devers Substation to Beaumont Substation.** SCE would acquire approximately 23.5 miles of ROW and construct a new 500 kV transmission line between Devers Substation and a new Beaumont Substation. The route is assumed to follow the easternmost 25 miles of the existing Devers-Valley corridor, which currently holds 2 single-circuit 500 kV lines. The first Devers-Valley 500 kV circuit was constructed in 1986, and the second Devers-Valley circuit was constructed after completion of the 2006 Devers–Palo Verde No. 2 EIR/EIS, which evaluated this line as an alternative to the West of Devers segment initially included as part of that project. The Devers-Valley #2 line was energized in 2013.

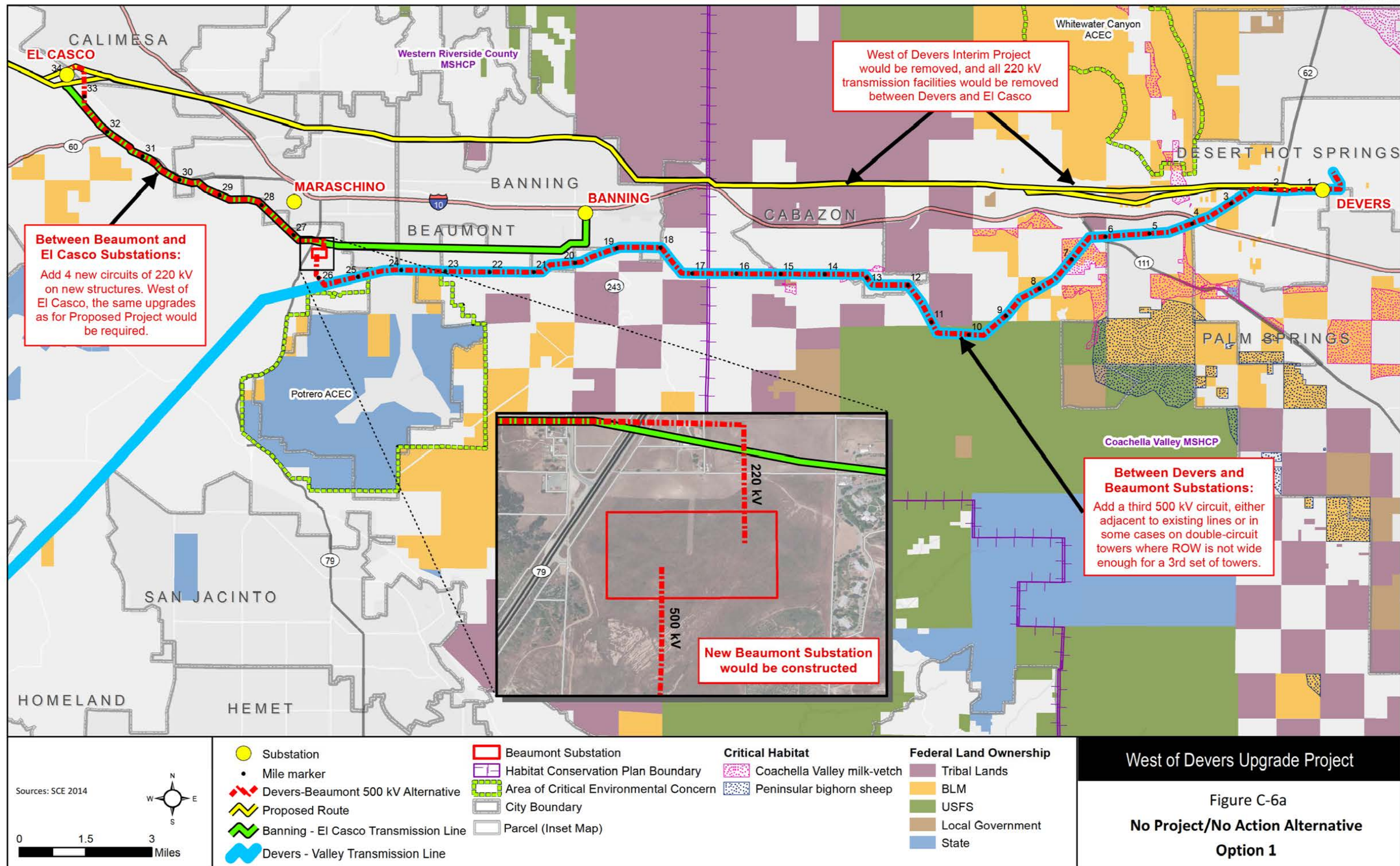
In order to follow this existing corridor that already has two 500 kV lines (Devers-Valley No. 1 and No. 2), the third circuit is assumed to be installed as follows:

- From Milepost (MP) DV1 to DV9 (Devers Substation to the border of the San Bernardino National Forest), a new single-circuit 500 kV line would be constructed north of and adjacent to the existing Devers-Valley No. 1 and 2 lines. This line segment crosses private land, BLM-managed public lands, and the Santa Rosa and San Jacinto National Monument.
- From MP DV9 to DV14 (through the National Forest and the community of Cabazon), the existing Devers-Valley No. 2 structures would be removed and replaced with double-circuit structures. There is not adequate space in the ROW for addition of a third circuit north of the existing two circuits. The corridor is constrained through the National Forest because it passes through Congressionally designated Wilderness, and the corridor cannot be widened for a 3rd circuit. Just west of the National Forest segment, the route passes through the community of Cabazon, where proximity of residences would likely prohibit installation of a separate third 500 kV circuit.
- From MP DV14 to DV26, the new line would be on private land, with single-circuit 500 kV structures installed adjacent to the two existing circuits. In specific locations where nearby residences prohibit the addition of a third separate circuit, the northern structures of the Devers-Valley No. 2 line would be removed and replaced with double-circuit structures, as would be done through the Forest.

**Beaumont Substation:** North of MP DV26 and just outside of the southwestern Beaumont City limits, SCE would acquire property rights for and construct a new 500/220 kV substation of about 40 acres. The new 500 kV circuit would terminate at the Beaumont Substation, and the existing Devers–Valley 500 kV No. 2 transmission line would loop into the new substation. Four circuits of 220 kV line would exit the substation to the north.

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**Beaumont Substation to El Casco Substation:** Approximately 1.5 miles north of the Beaumont Substation, the new lines would reach the existing SCE 115 kV El Casco transmission line, and would follow that corridor for an additional 7 miles to the El Casco Substation. SCE would have to acquire approximately 7 miles of new ROW (assumed to be adjacent to the existing El Casco line), and construct two new double-circuit 220 kV transmission lines from the new Beaumont Substation to the area of the existing El Casco Substation.

West of the El Casco Substation, the No Action Alternative would be the same as the Proposed Project:

- **El Casco to Vista Substation:** Tear down and rebuild approximately 15 miles of existing 220 kV transmission lines and structures within the existing WOD corridor between the existing El Casco and Vista Substations.
- **El Casco to San Bernardino Substation:** Tear down and rebuild approximately 13 miles of existing 220 kV transmission lines and structures within the existing WOD corridor between the existing El Casco and San Bernardino Substations.
- **San Bernardino Junction to San Bernardino Substation:** Tear down and rebuild approximately 3.5 miles of existing 220 kV transmission lines and structures within the existing WOD corridor between San Bernardino Substation and the San Bernardino Junction.
- The **telecommunication lines, and subtransmission and distribution lines** included in the Proposed Project would be upgraded as currently proposed.

Until the alternative system upgrade could be designed, permitted, and built, SCE states that:

- The existing West of Devers Recommended Operating Temperatures, Remedial Action Scheme and the 2013 Interim Project would remain in place to prevent overloading the four 220 kV transmission lines in the WOD corridor. Some existing and proposed generation, primarily in eastern Riverside County would continue to need to be curtailed during certain conditions to protect the existing Devers–San Bernardino No. 1 220 kV line from overloading. This may increase the reliance on non-renewable energy and increase the dispatch and use of more-costly or less-efficient power plants within the Los Angeles Basin during the development of the alternative system upgrade.
- The CAISO Transmission Plan, which anticipates rebuilding the West of Devers corridor for “policy-driven” purposes, would not be fully implemented until the alternative system upgrade is designed, permitted, and built. Power plants presently planning to use the Proposed Project could be delayed or face eventual cancellation while exploring other options such as operating with an “energy-only” status or building their own transmission facilities to improve deliverability of generation that is not local to load.
- Because no alternative transmission project is presently planned to “fully deliver the output of new generation projects located in the Blythe and Desert Center areas...” the planned generation resources could be designated as “energy-only” while the alternative system upgrade can be designed, permitted, and built. Some planned renewable energy power plants would likely be cancelled as not being fully deliverable.

#### ***Land Uses along the Alternative Route***

The route would traverse private lands, BLM-managed public lands, a small portion of the San Bernardino National Forest (SBNF) and the Santa Rosa and San Jacinto Mountains National Monument (National Monument). It would cross the Pacific Crest National Scenic Trail (PCT). Details of each segment are as follows:

**Devers Substation to Highway 111.** The alternative would depart the Devers Substation and head west along the Devers-Valley transmission line corridor, with each new alternative tower being located about 130 feet south of the existing D-V towers, where feasible. For the first 2.7 miles out of the Devers Substation, the new 500 kV corridor is assumed to share the same corridor as the existing D-V towers. The alternative would cross Highway 62 within the D-V and the WOD corridor and would traverse an area predominated by the wind farms in the San Geronio Pass. The D-V ROW in this area ranges between 200 feet (where BLM lands are traversed) and 330 feet (SCE fee lands/easements) so additional ROW would have to be acquired in some areas.

After crossing Highway 62, the route would parallel 16th Avenue and the community of Painted Hills to the south for 1 mile before crossing Garnet Creek and paralleling Painted Hills Road, a dirt road over a hill towards the Whitewater River. East of the river valley, the alternative route would turn southwest and cross Interstate 10. The alternative route would continue southwest along the D-V corridor, passing through undeveloped areas within the jurisdiction of the City of Palm Springs for approximately 1.4 miles. The route would cross the Union Pacific Railroad and Highway 111.

**National Monument and National Forest Lands.** At the Highway 111 crossing, the corridor enters the Santa Rosa and San Jacinto Mountains National Monument. The route would traverse 1.3 miles (six towers) on the valley floor, then travel southwest up the San Jacinto Mountains and through the rugged terrain of the National Monument. There is a University of California community off Snow Creek Road at the base of the mountains that studies bighorn sheep, among other species, located in the steep hills. It would cross Snow Creek (the ROW is adjacent to Snow Creek Road on the flat portion of the Monument lands) and the Pacific Crest Trail, and would enter the San Jacinto Wilderness<sup>2</sup> at MP DV9 in the SBNF (although the transmission corridor itself has been removed from the wilderness). After approximately 0.5 miles within the San Jacinto Wilderness, the alternative would turn west-northwest and would travel an estimated 0.8 miles to exit the National Monument and an additional 0.4 miles to exit the SBNF and Wilderness area.

The addition of a new line or circuit to the D-V corridor would require a Special Use authorization from the USDA Forest Service for the portion of the alternative located on National Forest System lands. In order to consider issuance of the authorization (easement) to allow construction of the new circuit, the Forest Service must comply with NEPA. After the completion of its NEPA document, the Forest Service would issue a Record of Decision (ROD) that documents the Forest Service decision on whether to approve authorizing a Special Use Easement as proposed, approve an alternative to the proposed action, or deny SCE's application and the rationale for that decision. If appropriate, the ROD would also address whether Forest Plan amendments would be necessary before a Special Use Easement can be issued to SCE for this alternative.

Amendments to the following plans may also be necessary for approval of this new transmission line: San Bernardino National Forest Land Management Plan; Santa Rosa and San Jacinto Mountains National Monument Proposed Management Plan and Final EIS; and Memorandum of Understanding (MOU) between BLM, Forest Service, and the Pacific Crest Trail Association (PCTA). The USDA Forest Service would need to determine whether the new D-V circuit would be consistent with management direction in the governing Forest Plan. For example, conflicts with the defined scenic integrity objectives that apply to the route would require a Forest Plan amendment. It is likely that installation of a new double-circuit line segment such as the No Action Alternative transmission line and associated facilities may not

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<sup>2</sup> While the corridor is within the overall designated wilderness area, this corridor was removed from wilderness by Congress because of the existence of the transmission corridor.

be consistent with Forest Plan direction for desired landscape character or scenic integrity objectives. If an amendment is required by the Forest Service, the Forest Service would determine the changes that would be necessary to the desired landscape character of the Santa Rosa and San Jacinto Mountains National Monument geographical unit of the San Bernardino National Forest, as established in the Forest Plan.

**Cabazon Area.** After dropping down from the mountains and leaving National Forest/National Monument lands, the route would continue northwest for 0.9 miles, passing through the unincorporated residential area known as Cabazon Estates, which includes a community of existing homes north of Ida Avenue, south of Esperanza Avenue, and east of Peach Street, as well as additional lots that are likely to be developed. The corridor is located on the south of Ella Street, a two-lane dirt road approximately 400 feet north of Riza Street, which is newly paved. Homes and vacant lots are located on the north side of Ella Street and the south side of Riza Street, but SCE owns the ROW between the two streets. The alternative route would then turn west and would cross Esperanza Avenue and the Colorado River Aqueduct.

The D-V corridor parallels Esperanza Avenue to the south and proceeds into the San Gorgonio River at the western end of Esperanza Avenue, traveling approximately 1.7 miles. Along Esperanza Avenue, SCE relocated the D-V 1 tower when D-V 2 was built, moving the D-V1 tower (located at the southern end of Orange Street) and the new D-V2 tower approximately 500 feet to the north. SCE relocated the tower to properties north of the northwest quarter of the northeast quarter of Section 20 that had already been purchased by SCE.

**Areas South of Banning and Beaumont.** Traveling west an additional 2 miles, the route turns northwest and would pass between two parcels owned by the Morongo Indian Tribe. For approximately 1.1 miles, the route traverses the City of Banning, north of and parallel to Porter Street within Smith Creek. At Hathaway Street, the route turns west-southwest and crosses Highway 243 (Idyllwild Highway), which is a designated California Scenic Highway. Continuing west-southwest for another 0.7 miles through the City of Banning, the route turns west and traverse a mile of open space and scattered rural residential land.

**Potrero ACEC to Beaumont Substation.** The route continues west for 1 mile adjacent to and traversing Smith Creek, at which point it traverses the northern boundary of the Potrero ACEC. The alternative route would be within the ACEC for approximately 1.7 miles, as are the two existing circuits. The Potrero ACEC is a 1,030-acre area under the jurisdiction of the BLM. At least 5 species of wildlife that are listed as threatened or endangered may occur within the Potrero ACEC. The route crosses Highland Springs Avenue (which is the boundary between the Cities of Banning and Beaumont) going west, and passes south of large housing developments (Four Seasons and Potrero Creek Estates) in the City of Beaumont. Two miles west of the crossing of Highland Springs Road, the new 500 kV line would turn north for approximately 0.6 miles into the new Beaumont Substation.

The Beaumont Substation would be about 40 acres in size. Its eastern edge would be about 500 feet west of Manzanita Park Road and its western edge would be near the intersection of California Avenue and Beaumont Avenue (State Highway 79). Access would be via California Avenue, or directly off of Beaumont Avenue.

**Beaumont Substation to El Casco Substation.** The new 220 kV lines exiting the Beaumont Substation would head north for about 1,000 feet, then turn west and follow the 115 kV El Casco line for 7 miles to El Casco Substation. The first 3 miles head northwest, along the eastern base of the hills. The route then follows Highway 60 for about 2.3 miles, before crossing north of the freeway and continuing for 2 miles to the El Casco Substation.

### C.6.3.2 No Action Alternative Option 2

The second No Action Alternative, Option 2, was defined because power flow modeling identified that there is currently available capacity in the Devers-Valley No. 1 and No. 2 500 kV lines. However, this capacity cannot now be well used because the transmission system is constrained west of the Valley Substation, where there is only one 500 kV circuit between the Valley and Serrano Substations. The power flows related to this alternative were studied in detail by the EIS team, and results are documented in EIS Appendix 5, Attachment 2 (Power Flow Analysis).

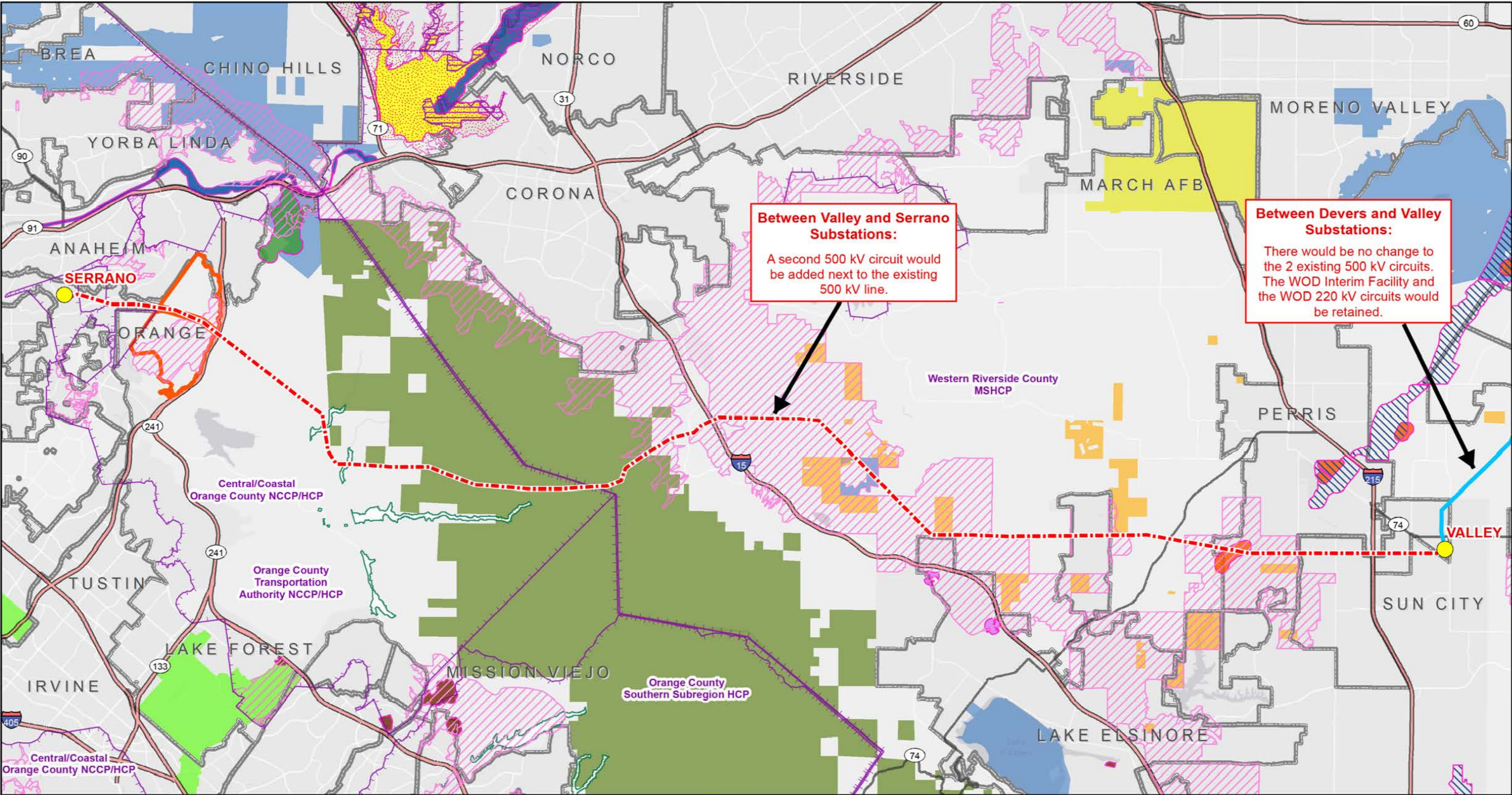
In this No Action Alternative option, there would be minor changes to the 220 kV system on tribal land, and a new 500 kV circuit between the Valley Substation and the Serrano Substation in Orange County. This alternative is illustrated on Figure C-6b.

- **No major upgrades to 220 kV system West of Devers.** The SCE WOD 220 kV system would be unchanged from the current system (4 circuits with current capacity; no removal of single-circuit towers; no construction of new towers). However, as defined in the approved Morongo agreement, the 220 kV segment between the Outlet Mall and the eastern border of the City of Banning would move south from its current location to be adjacent to I-10 and would be installed on new tubular steel poles.
- **Retain the WOD Interim Project.** Just west of the Devers Substation, SCE has installed series reactors on the four 220 kV transmission lines that extend west of Devers Substation and a Special Protection System (SPS) to prevent overloading of the existing WOD transmission lines. This equipment would be retained in the No Action Alternative Option 2.
- **No upgrades to 500 kV Devers-Valley System and no new substation.** The existing Devers-Valley No. 1 and No. 2 circuits are currently operating well below capacity, as shown in the power flow modeling attached to Appendix 5 (Alternatives Screening Report, Attachment 2). Additional power could be delivered to Valley Substation through these lines by making improvements west of the Valley Substation. As shown in modeled Case 2 (CAISO 2024 Reliability Base Case with an added 1,400 MW imported from the Imperial Irrigation District), each Devers-Valley 500 kV circuit would use only 44% of its capacity, leaving over 2,000 MW available.
- **New 500 kV line from Valley to Serrano Substations.** A new single-circuit 500 kV transmission line would be constructed along approximately 40.4 miles of existing transmission corridor from SCE's Valley Substation in the City of Romoland to its Serrano Substation in the City of Orange. The existing Valley-Serrano No. 1 transmission line occupies this corridor, and was constructed in 1986. The route includes about 9 miles within the Cleveland National Forest, in a designated utility corridor, where construction would have to be completed via helicopter. Upgrades would be required at the Valley and Serrano Substation.

#### ***Route Description***

From Valley Substation, the Valley-Serrano corridor heads south for approximately 0.1 miles then turns west and traverses unincorporated Riverside County and the Cities of Romoland, Sun City, and Perris in the southern Perris Valley. The route crosses Interstate 215 at approximately MP 1.9 in the City of Perris. At approximately MP 5.5, the corridor crosses the San Jacinto River, then leaves the City of Perris and again enters unincorporated Riverside County at approximately MP 6.2. The corridor crosses California State Route (SR) 74 at approximately MP 7.4 then enters the City of Lake Elsinore at approximately MP 8.9.





West of Devers Upgrade Project

Figure C-6b

No Project/No Action Alternative  
Option 2



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From MP 9.9, the corridor continues west through rugged foothills south of the Gavilan Plateau in unincorporated Riverside County. These foothills contain both the Lake Mathews-Estelle Mountain reserve and Regional Conservation Agency MSHCP Conserved Lands. Several special-status species are found in the area, including Stephens' kangaroo rat. At approximately MP 13.6, the corridor turns northwest through the foothills and runs roughly parallel to and northeast of Interstate 15. California Department of Fish and Wildlife lands that surround Estelle Mountain are crossed from approximately MP 15.6 to MP 16.3.

At approximately MP 17.9 the corridor turns west again, remaining in the foothills south of Lake Mathews until it crosses Temescal Wash at MP 20.4 and Interstate 15 at MP 20.6. From there, the corridor heads southwest and enters the CNF administrative boundary at approximately MP 21.4 and Forest Service land at approximately MP 22.5. Near MP 24 the corridor enters Orange County and again turns west, continuing across CNF for approximately 7 miles, leaving Forest Service land at MP 29 and the CNF administrative boundary at approximately MP 31.3. The CNF portion would be within a designated utility corridor.

After leaving CNF, the corridor continues west through the Santa Ana Mountains before turning sharply to the north at MP 31.3. From that point, it heads north-northwest through the mountains and crosses SR 241 at approximately MP 36.2. Shortly thereafter, the corridor enters Weir Canyon Regional Park at MP 37.3 and then the City of Orange at approximately MP 37.8. At MP 38, the corridor exits Weir Canyon Regional Park and continues west through the City of Orange and the Peralta Hills to its terminus at Serrano Substation.

**Valley and Serrano Substation Improvements.** Upgrades likely would be required at both the Valley and Serrano Substations to interconnect the new 500 kV circuit into the existing electrical transmission system. A detailed description of these upgrades would be developed prior to the environmental review for the new 500 kV circuit.

#### ***Land Uses Along the Alternative Route***

The eastern 24.4 miles of the corridor are in Riverside County, and the western 16 miles are in Orange County. Approximately 9.9 miles of the route is located in the Cleveland National Forest (CNF), where the route would be within a designated utility corridor defined in the federal Westwide Energy Corridors program. On the eastern and western edges of the forest, this designated utility corridor is surrounded by Non-Motorized Back Country land in the Coldwater and Ladd Inventoried Roadless Areas (IRAs). Construction by helicopter would be required in the CNF. Figure C-6b illustrates the route and the land jurisdictions.

Major topographic features along the corridor, from east to west, include: the southern Perris Valley, the foothills surrounding Steele Peak, Estelle Mountain and the surrounding foothills southwest of the Gavilan Plateau, the Santa Ana Mountains, and the Peralta Hills on the eastern border of the Los Angeles Basin.

On the CNF and on private lands where SCE's existing ROW is wide enough to accommodate an additional set of single-circuit 500 kV towers, the new circuit would be constructed within the existing ROW. However, at some locations along the Valley to Serrano corridor, additional easements or land acquisition to establish a wider ROW may be required.

## C.7 References

- Bass et al. (Ronald E. Bass, Albert I. Herson, and Kenneth M. Bogdan). 2001. The NEPA Book: A Step-By-Step Guide on How to Comply With the National Environmental Policy Act. Solano Press Books. April.
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